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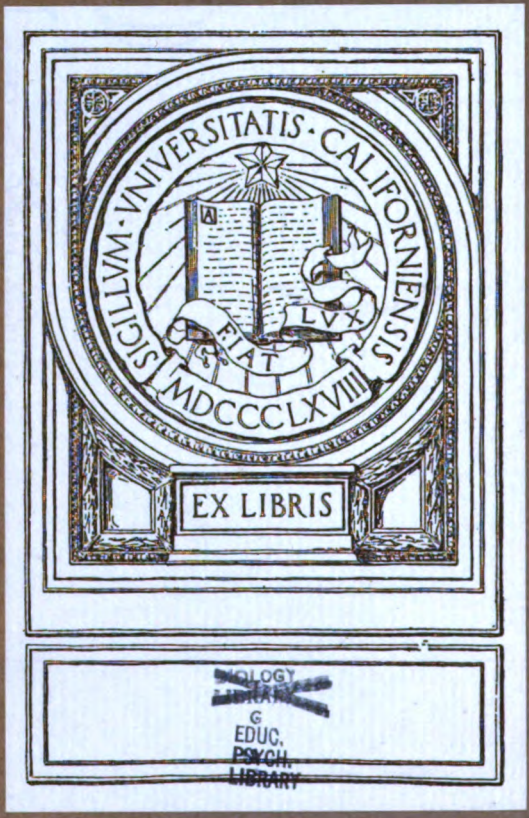

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OF

MENTAL SCIENCE

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"In adopting our title of the *Journal of Mental Science*, *published by authority of the Medico-Psychological Association*, we profess that we cultivate in our pages mental science of a particular kind, namely, such mental science as appertains to medical men who are engaged in the treatment of the insane. But it has been objected that the term mental science is inapplicable, and that the term mental physiology or mental pathology, or psychology, or psychiatry (a term much affected by our German brethren), would have been more correct and appropriate; and that, moreover, we do not deal in mental science, which is properly the sphere of the aspiring metaphysical intellect. If mental science is strictly synonymous with metaphysics, these objections are certainly valid; for although we do not eschew metaphysical discussion, the aim of this JOURNAL is certainly bent upon more attainable objects than the pursuit of those recondite inquiries which have occupied the most ambitious intellects from the time of Plato to the present, with so much labour and so little result. But while we admit that metaphysics may be called one department of mental science, we maintain that mental physiology and mental pathology are also mental science under a different aspect. While metaphysics may be called speculative mental science, mental physiology and pathology, with their vast range of inquiry into insanity, education, crime, and all things which tend to preserve mental health, or to produce mental disease, are not less questions of mental science in its practical, that is in its sociological point of view. If it were not unjust to high mathematics to compare it in any way with abstruse metaphysics, it would illustrate our meaning to say that our practical mental science would fairly bear the same relation to the mental science of the metaphysicians as applied mathematics bears to the pure science. In both instances the aim of the pure science is the attainment of abstract truth; its utility, however, frequently going no further than to serve as a gymnasium for the intellect. In both instances the mixed science aims at, and, to a certain extent, attains immediate practical results of the greatest utility to the welfare of mankind; we therefore maintain that our JOURNAL is not inaptly called the *Journal of Mental Science*, although the science may only attempt to deal with sociological and medical inquiries, relating either to the preservation of the health of the mind or to the amelioration or cure of its diseases; and although not soaring to the height of abstruse metaphysics, we only aim at such metaphysical knowledge as may be available to our purposes, as the mechanician uses the formularies of mathematics. This is our view of the kind of mental science which physicians engaged in the grave responsibility of caring for the mental health of their fellow-men may, in all modesty, pretend to cultivate; and while we cannot doubt that all additions to our certain knowledge in the speculative department of the science will be great gain, the necessities of duty and of danger must ever compel us to pursue that knowledge which is to be obtained in the practical departments of science with the earnestness of real workmen. The captain of a ship would be none the worse for being well acquainted with the higher branches of astronomical science, but it is the practical part of that science as it is applicable to navigation which he is compelled to study."—*Sir J. C. Bucknill, M.D., F.R.S.* (*Journ. Ment. Sci.*, vol. vii, 1861, p. 137).

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1876. W. H. Parsey, M.D., Warwick County Asylum.
1877. G. Fielding Blandford, M.D., London.
1878. Sir J. Crichton-Browne, M.D., Lord Chancellor's Visitor in Lunacy.
1879. J. A. Lush, M.D., Fisherton House.
1880. G. W. Mould, M.R.C.S., Royal Asylum, Cheadle.
1881. D. Hack Tuke, M.D., London.
1882. Sir W. T. Gairdner, M.D., Glasgow.
1883. W. Orange, M.D., State Criminal Lunatic Asylum, Broadmoor.
1884. Henry Rayner, M.D., Hanwell Asylum.
1885. J. A. Eames, M.D., District Asylum, Cork.
1886. Sir Geo. H. Savage, M.D., Bethlem Royal Hospital.
1887. Sir Fred. Needham, M.D., Barnwood House.
1888. Sir T. S. Clouston, M.D., Royal Asylum, Edinburgh.
1889. H. Hayes Newington, F.R.C.P., Ticehurst House.
1890. David Yellowlees, M.D., Royal Asylum, Glasgow.
1891. R. B. Whitcombe, M.R.C.S., City Asylum, Birmingham.
1892. Robert Baker, M.D., The Retreat.
1893. J. Murray Lindsay, M.D., Derby County Asylum.
1894. Conolly Norman, F.R.C.P.I., Richmond Asylum, Dublin.
1895. David Nicolson, *C.B.*, M.D., State Criminal Lunatic Asylum, Broadmoor.
1896. William Julius Mickle, M.D., Grove Hall.
1897. Thomas W. McDowall, M.D., Northumberland Asylum.
1898. A. R. Urquhart, M.D., James Murray's Royal Asylum, Perth.

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1899. J. B. Spence, *O.B.E.*, M.D., Burntwood Asylum, Lichfield.
1900. Fletcher Beach, M.B., London.
1901. Oscar T. Woods, M.D., District Asylum, Cork.
1902. J. Wiglesworth, M.D., Rainhill Asylum.
1903. Ernest W. White, *C.B.E.*, M.B., City of London Asylum, Stone.
1904. R. Percy Smith, M.D., London.
1905. T. Outterson Wood, M.D., London.
1906. Sir Robert Armstrong-Jones, *C.B.E.*, M.D., Claybury Asylum.
1907. P. W. MacDonald, M.D., Dorchester County Asylum.
1908. Chas. A. Mercier, M.D., Flower House.
1909. W. Bevan-Lewis, M.Sc., West Riding Asylum, Wakefield.
1910. Sir John Macpherson, M.D., Commissioner in Lunacy for Scotland.
1911. Wm. R. Dawson, *O.B.E.*, M.D., Inspector of Lunatic Asylums, Dublin.
1912. J. Greig Soutar, M.B., Barnwood House.
1913. James Chambers, M.D., The Priory.
1914–18. David G. Thomson, *C.B.E.*, M.D., Norfolk County Asylum.
1918. John Keay, *C.B.E.*, M.D., Bangour Village.
1919. Bedford Pierce, M.D., The Retreat.
1920. William F. Menzies, M.D., Cheddleton Mental Hospital.
1921. C. Hubert Bond, *C.B.E.*, M.D., Commissioner, Board of Control.
1922. G. M. Robertson, M.D., Royal Mental Hospital, Morningside, Edinburgh.
1923. Edwin Goodall, *C.B.E.*, M.D., Cardiff City Mental Hospital.
1924. Michael J. Nolan, L.R.C.P.&S.Irel., Downpatrick Asylum.
1925. Sir Frederick W. Mott, *K.B.E.*, M.D., London.
1926. John R. Lord, *C.B.E.*, M.D., Horton Mental Hospital, Epsom.
1927. Hamilton Marr, M.D., Commissioner, General Board of Control for Scotland.

LIST OF MAUDSLEY LECTURERS.

1920. Sir J. Crichton-Browne, LL.D., D.Sc., M.D., F.R.S.
1921. Sir F. W. Mott, *K.B.E.*, LL.D., M.D., F.R.C.P., F.R.S.
1922. Sir M. Craig, *C.B.E.*, M.A., M.D., F.R.C.P.
1923. Charles Kirk Clarke, LL.D.. M.D.
1924. J. Carswell, F.R.F.P.S.Glasg.
1925. Joseph Shaw Bolton, D.Sc., M.D., F.R.C.P.
1926. George M. Robertson, M.D., F.R.C.P.Edin.
1927. Edwin Goodall, *C.B.E.*, M.D., F.R.C.P.
1928. Sir John Macpherson, *K.B.E.*, *C.B.*, M.D., F.R.C.P.

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HONORARY MEMBERS.

1918. **Bevan-Lewis, William**, M.Sc.Leeds, M.R.C.S., L.R.C.P.Lond., 22, Cromwell Road, Hove. (PRESIDENT, 1909–10.)

1900. **Blumer, G. Alder**, M.D., L.R.C.P.Edin., Superintendent Emeritus Butler Hospital; 196, Blackstone Boulevard, Providence, R.I., U.S.A. (*Ord. Mem.*, 1890.)

1900. **Bresler, Johannes**, M.D., Sanitätsrat, Director of the Provincial Mental Hospital, Kreuzburg, Oberschlesien, Germany. (Editor of the *Psychiatrisch-neurologische Wochenschrift.*) (*Corr. Mem.*, 1896.)

1902. **Brush, Edward N.**, M.D., Superintendent Emeritus, Sheppard and Enoch Pratt Hospital, Towson, Maryland; Hamilton Road, Mount Washington, Baltimore, Md., U.S.A.

1925. **Chamberlain, Rt. Hon. Arthur Neville**, *M.P.*, 37, Eaton Square, London, S.W. 1.

1920. **Colin, Dr. H.**, Secrétaire Général de la Société Médico-Psychologique de Paris, 22, Rue Gay Lussac, Paris (V^e^), France.

1909. **Collins, Sir Wm. Job**, *K.C.V.O.*, B.Sc., M.D., M.S., F.R.C.S., 1, Albert Terrace, Regent's Park, London, N.W. 1.

1912. **Considine, Thomas Ivory**, L.R.C.P., F.R.C.S.Irel., Medical Superintendent, Central Criminal Asylum, Dundrum, co. Dublin.

1918. **Cooke, Sir (Edward) Marriott**, *K.B.E.*, M.B., Honorary Commissioner, Board of Control; 9, Colherne Court, South Kensington, S.W. 5. (*Ord. Mem.*, 1878.)

1902. **Coupland, Sidney**, M.D., F.R.C.P., Wootton Ridge, Boar's Hill, Oxford.

1876. **Crichton-Browne, Sir J.**, LL.D., D.Sc., M.D.Edin., F.R.S., 45, Hans Place, London, S.W. 1. (PRESIDENT, 1878.) (*Ord. Mem.*, 1876.)

1924. **Dawson, Lt.-Col. W. R.**, *O.B.E.*, B.A., M.B., B.Ch.Dubl., F.R.C.P.Irel., D.P.H., M.P.C., Chief Medical Officer, Ministry of Home Affairs, North Ireland, 26, Windsor Park, Belfast. (*Ord. Mem.*, 1894.)

1925. **Drummond, Sir David**, *C.B.E.*, M.A., D.C.L., M.D., *J.P.*, 6, Saville Place, Newcastle-on-Tyne.

1923. **Ellis, Henry Havelock**, L.S.A., 14, Dover Mansions, Canterbury Road, Brixton, London, S.W. 9.

1895. **Ferrier, Sir David**, LL.D., D.Sc., M.D., F.R.C.P., F.R.S., 27, York House, Church Street, Kensington, London, W. 8.

1922. **l'Hermitte, Dr. Jacques Jean**, Médecin de l'Hospice Paul Brousse, Paris; 9, rue Marbeuf, Paris 8e, France.

1924. **McDougall, William**, LL.D., M.B., F.R.S., Professor of Psychology in Duke University, U.S.A.

1910. **Macpherson, Sir John**, *K.B.E.*, *C.B.*, M.D., C.M., F.R.C.P.Edin., "Hillside," Cleeve, nr. Bristol. (*Ord. Mem.*, 1886.) (PRESIDENT, 1910–11.)

1921. **Maudsley, Sir Henry Carr**, *K.C.M.G.*, *C.B.E.*, M.D., B.S., F.R.C.P., Consulting Physician, Melbourne Hospital, Victoria; 8, Collins Street, Melbourne.

1926. **Meyer, Adolf**, M.D., Psychiatrist in Chief, The Johns Hopkins Hospital, Baltimore, U.S.A.

1922. **Pactet, Dr. François Florentine**, Médecin en chef de l'Asile de Villejuif, Paris; 94, Avenue de la République, Villejuif, Seine, France.

1927. **Robertson, George Matthew**, M.D., C.M., F.R.C.P.Edin., Hon. F.R.C.S. Edin., M.P.C., Professor of Psychiatry, University of Edinburgh; Tipperlinn House, Morningside Place, Edinburgh. (*Ord. Mem.*, 1887.) (*Vice-Chairman, Research and Clinical Committee since* 1927.) (PRESIDENT, 1922–23.)

1927. **Rolleston, Sir Humphry Davy**, *Bt.*, *K.C.B.*, D.C.L., LL.D., D.Sc., M.D., F.R.C.P., Physician in Ordinary to H.M. the King; Regius Professor of Physic, University of Cambridge; Southfield, Trumpington Road, Cambridge.

1923. **Rose, Sir Arthur**, *D.S.O.*, Chairman, General Board of Control for Scotland, 25, Palmerston Place, Edinburgh.

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1924. **Sandhurst, Lord, Barrister-at-Law; Lord Chancellor's Visitor in Lunacy, Royal Courts of Justice, Strand, London, W.C. 2.**
1911. **Semelaigne, Dr. Réné, Secrétaire des Séances de la Société Medico-Psychologique de Paris, 59, Boulevard de Montmorency, Paris, XVI, France.** (*Corr. Mem.*, 1893.)
1927. Smith, Robert Percy, M.D., B.S.Lond., F.R.C.P., Consulting Physician for Mental Diseases, St. Thomas's Hospital; 36, Queen Anne Street, London, W. 1. (*Ord. Mem.*, 1885.) (*General Secretary*, 1896–97.) (*Chairman Educational Committee*, 1899–1903.) (PRESIDENT, 1904–05.)
1922. **Smith, William Charles Clifford, Esq., *O.B.E.*, F.R.I.B.A., M.I.C.E., *J.P.*, Dudley Lodge, Wallington, Surrey.**
1901. Toulouse, Dr. Edouard, Médecin des Asiles de la Seine; 1, Rue Cabanis, Paris, XIVe, France.
1923. **Willis, Sir Frederick James, *K.B.E.*, *C.B.*, Chairman, Board of Control for England, Caxton House West, Tothill Street, Westminster, S.W. 1.**
1926. Winkler, C., M.D., 35, Heerenstraat, Utrecht, Holland. (*Corr. Mem.*, 1924.)

CORRESPONDING MEMBERS.

1911. **Boedeker, Prof. Dr. Justus Karl Edmund, Privat Docent and Director, Fichtenhof Asylum, Schlachtensee, Berlin.**
1923. Briggs, L. Vernon, M.D., 64, Beacon Street, Boston, Mass., U.S.A.
1897. Buschan, Dr. G., Stettin, Germany.
1927. Charpentier, René, M.D., Secrétariat Permanent, Congrès des Médecins Aliénistes et Neurologistes de France et des Pays de langue française; 119, rue Perronet, Neuilly-sur-Seine (Seine), Paris.
1904. Coroleü, Wilfrid, Medico forense del distrito de la Barceloneta, Aribau, 31, pral, Chaflan Consejo Ciento de 7 à 8, Spain.
1924. **Cotton, Henry A., A.M., M.D., Medical Director, State Hospital, Trenton, New Jersey, U.S.A.**
1896. **Cowan, F. M., M.D., 109, Perponcher Straat, The Hague, Holland.**
1911. **Falkenberg, Dr. Wilhelm, Sanitätstrat, Direktor der Berliner, Torenanstalt, Herzberge, Berlin-Lichtenberg.**
1907. **Ferrari, Giulio Cesare, M.D., Director of the Manicomio Provinciale, Imola, Bologna, Italy.**
1911. **Friedlander, Prof. Dr. Adolf Albrecht, Haus Sonnblick, Littenweiler, bei Freiburg i/Baden, Germany.**
1901. **Gommès, Dr. Marcel, 5, Rue Parrot, Paris XII.**
1922. **Kure, Prof. Schuzo, Tokyo University, Japan.**
1909. **Moreira, Prof. Dr. Juliano, Directeur General de l'Assistance aux Aliénées;** Praia da Saudade 288, Rio de Janeiro, Brazil.
1922. Morowoka, Dr. T., Yanagiwara 3 chôme, Fukuoka, Japan.
1909. **Pilcz, Dr. Alexander, VIII/2 Alserstrasse 43, Wien, Austria.**
1922. **Sano, Dr., Gheel, Belgium.**
1927. Targowla, René, M.D., *Chev. Leg. de Hon.*, Ancien chef de clinique á la Faculté de Médecine de Paris; Médecin en chef des Asiles publics; 169, rue de l'Université, Paris (VIIe).

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ORDINARY MEMBERS OF THE ASSOCIATION.

Alphabetical List of Ordinary Members of the Association on January 1, 1928, with the year in which they joined.

1910. **Adam, George Henry, M.R.C.S., L.R.C.P.Lond., Medical Superintendent, West Malling Place, Kent.**

1919. **Adey, J. K., M.B., C.M.Melb., Sunbury, Victoria, Australia.**

1886. **Agar, S. Hollingsworth, jun., B.A.Camb., L.S.A., M.R.C.S.Eng., Hurst House, Henley-in-Arden.**

1923. **Ahern, John Maurice, M.B., B.Ch.R.U.I., L.R.C.P.&S.Irel., Medical Officer, H.M. Prison, Liverpool.**

1923. **Ainsworth, Cyrus Gerald, M.A., LL.B., M.B., B.Ch.Camb., M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Graylingwell Mental Hospital, Chichester.**

1927. **Aitkin, Isaac, M.B., B.S., M.R.C.S., L.R.C.P.Lond., D.P.M., Junior Resident Medical Officer, Hants County Mental Hospital, Knowle, Fareham.**

1926. **Albiston, Norman Arthur, M.B., B.S.Syd., D.P.M., 32, Darling Road, East Malvern, Victoria, Australia.**

1924. **Alexander, Douglas Reid, M.R.C.S., L.R.C.P.Lond., D.P.M., Assistant Medical Officer, London County Mental Hospital, Bexley, Kent.**

1899. **Alexander, Hugh de Maine, M.D., C.M.Edin., Medical Superintendent, Kingseat Mental Hospital, Newmacher, Aberdeen.**

1922. **Alexander, Marion Cameron, M.B., B.Ch.Belf., Dipl. Psych., Assistant Physician, Royal Mental Hospital, Morningside, Edinburgh.**

1899. **Allman, Dorah Elizabeth, M.B., B.Ch.R.U.I., Assistant Medical Officer, District Asylum, Armagh.**

1908. **Anderson, James Richard Sumner, M.B., Ch.B.Glasg., Senior Assistant Medical Officer, Cumberland and Westmorland County Mental Hospital, Garlands, Carlisle.**

1926. **Anderson, John Ford, M.D., C.M.Aberd., M.R.C.P.Lond., L.R.C.S. Edin., 54, Finchley Road, London N.W. 8.**

1898. **Anderson, John Sewell, M.R.C.S., L.R.C.P.Lond., Medical Superintendent, City Mental Hospital, Willerby, Hull.**

1921. **Anderson, William, M.B., Ch.B.Aberd., Senior Assistant Physician, Royal Mental Hospital, Aberdeen.**

1918. **Anderson, William Kirkpatrick, M.D., Ch.B., F.R.F.P.S.Glasg., 2, Woodside Crescent, Glasgow.** (Lect. on Ment. Dis., Andr. Coll., Glasg.)

1912. **Annandale, James Scott, M.B., Ch.B.Aberd., D.P.M., Senior Assistant** Physician, Royal Mental Hospital, Aberdeen.

1904. **Archdale, Mervyn Alex., M.B., B.S.Durh., D.P.M., Medical Superintendent, Sunderland Mental Hospital, Ryhope.**

1905. **Archdall, Mervyn Thomas, L.S.A., L.R.C.P.&S.Edin., L.R.F.P.S.Glasg., St. Denys, New Milton, Hants.**

1882. **Armstrong-Jones, Sir Robert, *C.B.E.*, D.Sc.Wales, M.D., B.S., F.R.C.P. Lond., F.R.C.S.Eng., F.S.A., *D.L.*, *J.P.*, Lord Chancellor's Visitor-in-Lunacy, 9, Bramham Gardens, London, S.W. 5 (and Plâs Dinas, Carnarvon, North Wales).** (*Gen. Secretary*, 1897–1906.) (PRESIDENT, 1906–7.) (Gresham Prof. Physic.)

1910. **Auden, George Augustus, M.A., Ph.D.Birm., M.D., B.Ch.Camb., F.R.C.P.Lond., D.P.H., F.S.A., School Medical Officer, Education Office, Council House, Margaret Street, Birmingham.**

1891. **Aveline, Henry Talbot Sydney, M.D.Durh., M.R.C.S., L.R.C.P.Lond., M.P.C., Medical Superintendent, Somerset and Bath County Mental Hospital, Cotford, nr. Taunton.** (*Secretary, S.W. Division*, 1905–11.)

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1922. Back, Frederick, M.R.C.S., L.R.C.P.,Lond. D.P.M., Deputy Medical Superintendent, Sunderland Mental Hospital, Ryhope.

1926. Bailey, Reginald, M.B., Ch.B.Glasg., Assistant Medical Officer, Bangour Village, Uphall, West Lothian.

1909. **Bain, John, M.A., M.B., B.Ch.Glasg., Medical Superintendent, Derby Borough Mental Hospital, Rowditch.**

1913. **Bainbridge, Charles Frederick, M.B., Ch.B.Edin., Assistant Medical Officer, Devon County Mental Hospital, Exminster.**

1906. Baird, Harvey, M.D., Ch.B.Edin., Medical Superintendent, Periteau Private Asylum, Winchelsea, Sussex.

1923. Baker, Geoffrey Thomas, *M.C.*, L.M.S.S.A., D.P.M., Assistant Medical Officer, Kent County Mental Hospital, Chartham Down.

1922. **Banbury, Percy, M.R.C.S., L.R.C.P.Lond., D.P.M., Assistant Medical Officer,** West Park Mental Hospital, Epsom.

1922. Barclay, Rachel Mary, LL.B., M.D.Edin., Dipl. Psych., 2, W Crosscauseway, Edinburgh

1904. **Barham, Guy Foster, M.A., M.D., B.Ch.Camb., M.R.C.S., L.R.C.P. Lond., Medical Superintendent, Claybury Mental Hospital, Woodford Bridge, Essex.**

1919. **Barkas, Mary Rushton, M.Sc.N.Z., M.D., B.S., M.R.C.S., L.R.C.P.** Lond., D.P.M., Medical Superintendent, The Lawn, Lincoln.

1927. Barkas, Thomas Cook, *O.B.E.*, M.B., B.S.Durh., Resident Medical Officer, Middleton Hall, Middleton St. George, co. Durham.

1923. **Barnes, Francis Gregory Lawson, M.R.C.S., L.R.C.P.Lond., D.P.M.,** Assistant Medical Officer, Horton Mental Hospital, Epsom.

1910. **Bartlett, George Norton, M.B., B.S., M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Derby County Mental Hospital, Mickleover.** (*Secretary, S.W. Division*, 1916–22.)

1901. **Baskin, J. Lougheed, M.D.Brux., L.R.C.P.&S.Edin., L.R.F.P.S.Glasg.,** Ringwood, Bagley Wood, Kennington, Berks.

1902. **Baugh, Leonard Dieckmann Hamilton, M.B., Ch.B.Edin.,** The Pleasaunce, York.

1874. **Beach, Fletcher, M.B., F.R.C.P.Lond., 5, De Crespigny Park, Denmark Hill,** London, S.E. 5. (*Secretary, Parliamentary Committee*, 1896–1906.) (*General Secretary*, 1889–1896.) (PRESIDENT, 1900–01.)

1892. **Beadles, Cecil F., M.R.C.S., L.R.C.P.Lond., Gresham House, Egham Hill,** Egham, Surrey.

1921. Beaton, Thomas, *O.B.E.*, M.D., B.S., M.R.C.S., M.R.C.P.Lond., Medical Superintendent, City Mental Hospital, Milton, Portsmouth. (*Assistant Editor, 1926–27, and Co-Editor of Journal since 1927.*) (Lect. on Ment. Dis., Bethlem Royal Hospital.)

1913. Bedford, Percy William Page, M.D., Ch.B.Edin., Dipl. Psych., Medical Superintendent, Dorset County Mental Hospital, Herrison, near Dorchester.

1909. **Beeley, Arthur, M.Sc.Leeds, M.D., B.S., M.R.C.S., L.R.C.P.Lond.,** D.P.H., Assistant Medical Officer of Health, East Sussex; Windybank, King Henry's Road, Lewes, Sussex.

1922. Bell, Andrew Allan, M.B., Ch.B., F.R.F.P.S.Glasg., D.P.M., Pathologist and Assistant Medical Officer, Govan District Asylum, Hawkhead, Cardonald, N.B.

1914. **Bennett, James Wodderspoon, M.R.C.S., L.R.C.P.Lond., Marsden,** Babbacombe Road, Torquay.

1914. Benson, John Robinson, L.R.C.P.Lond., F.R.C.S.Eng., Resident Physician, Fiddington House, Market Lavington, Wilts, and Laverstock House, Salisbury.

1899. **Beresford, Edwyn H., M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Tooting Bec Mental Hospital, Tooting, London, S.W. 17.**

1922. **Berkeley-Hill, Owen Alfred Rowland, M.A., M.D., B.Ch.Oxon., M.R.C.S.,** L.R.C.P.Lond., Lt.-Col. *I.M.S.*, **Medical Superintendent, Ranchi Mental Hospital for Europeans, Kanké, Bihar and Orissa, India.**

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1912. **Berncastle, Herbert Melbourne, M.R.C.S., L.R.C.P.Lond.,** Medical Superintendent, Croydon Mental Hospital, Upper Warlingham, Surrey.

1927. Berry, R. J. A., M.D.Edin. & Melb., F.R.C.S., F.R.S.Edin., Professor of Anatomy at the University of Melbourne and Honorary Psychiatrist, Children's Hospital, Melbourne, Victoria.

1920. **Birch, William Somerset, *M.C.*, M.R.C.S., L.R.C.P.Lond.,** Medical Superintendent, The Mental Hospital, Bridgetown, Barbados, British West Indies.

1894. **Blachford, James Vincent, *C.B.E.*, M.D., B.S.Durh., M.R.C.S., L.R.C.P.** Lond., M.P.C., Milverton House, Long Ashton, Somerset.

1898. **Blair, David, M.A., M.D., C.M.Glasg., Medical Superintendent,** Lancashire County Mental Hospital, Prestwich, Manchester. (Lect. on Ment. Dis., Univ. of Manchester.)

1919. Blake, Stanley, L.R.C.P.&S.Irel., Assistant Medical Officer, Portrane Mental Hospital, Donabate, Dublin.

1918. **Blandford, Walter Folliott, B.A.Camb., M.R.C.S., L.R.C.P.Lond.,** Devonshire Club, London, S.W. 1.

1904. **Bodvel-Roberts, Hugh Frank, M.A.Camb., L.S.A., M.R.C.S., L.R.C.P. Lond., Senior Assistant Medical Officer, Napsbury Mental** Hospital, St. Albans, Herts.

1920. **Boland, James Joseph, M.B., B.Ch.N.U.I., Assistant Medical Officer,** House of St. John of God, Stillorgan, co. Dublin.

1900. **Bolton, Joseph Shaw, D.Sc., M.D., B.S., F.R.C.P.Lond., Medical Superintendent,** West Riding Mental Hospital, Wakefield. (Prof. of Ment. Dis., Univ. of Leeds.)

1892. **Bond, Charles Hubert, *C.B.E.*, D.Sc., M.D., C.M.Edin., F.R.C.P.Lond.,** M.P.C., Commissioner, Board of Control, Caxton House West, Westminster, S.W. 1. (*General Secretary*, 1906–12.) (PRESIDENT, 1921–22.) (Lect. on Ment. Dis., Maudsley Hospital.)

1922. Bostock, John, M.B., B.S., M.R.C.S., L.R.C.P.Lond., D.P.M., Medical Superintendent, The Mental Hospital, Newcastle, New South Wales.

1918. **Bower, Cedric William, L.M.S.S.A., Joint Medical Officer, Springfield** House, near Bedford.

1877. **Bower, David, M.D., C.M.Aberd., L.R.F.P.S.Glasg.,** Springfield House, near Bedford. (*Chairman, Parliamentary Committee*, 1907–1910.)

1917. Bowie, Edgar Ormond, L.A.H.Dubl., D.P.H., Assistant Medical Officer of Health; 14, Highfield Road, Doncaster.

1896. Boycott, Arthur N., M.D., M.R.C.S., L.R.C.P.Lond., Gombards House, St. Albans, Herts. (*Secretary, S.E. Division*, 1900–05.)

1926. Boyd, William, M.B., Ch.B.Edin., D.P.H., Medical Superintendent, Fife and Kinross District Asylum, Cupar, Fife.

1898. **Boyle, A. Helen A., M.D.Brux., L.R.C.P.&S.Edin., 9, The Drive, Hove,** Brighton.

1926. **Braithwaite**, Joseph, M.B., Ch.B.Edin., D.P.M., Assistant Medical Officer, City Mental Hospital, Gosforth, Newcastle-on-Tyne.

1922. **Bramwell**, Edwin, M.D., F.R.C.P.Edin. & Lond., F.R.S.Edin., 23, Drumsheugh Gardens, Edinburgh. (Physician, Royal Infirmary, and Prof. of Clin. Med., Univ. of Edinburgh.)

1911. **Brander**, John, M.D., C.B.Edin., M.R.C.P.Lond., D.P.M., Deputy Medical Superintendent, London County Mental Hospital, Bexley, Kent.

1919. **Branthwaite**, Robert Welsh, *C.B.*, M.D.Brux., M.R.C.S., L.R.C.P.Lond., D.P.H., Stoke Park, Stapleton, Bristol.

1925. **Brennan**, Richard Dominick, M.B., B.Ch., N.U.I., Assistant Medical Officer, District Mental Hospital, Waterford.

1922. **Brock**, Arthur John, M.D., Ch.B.Edin., Medical Superintendent, Garth Hill House, North Queensferry, Fife.

1924. **Brown**, Basil William, M.B., B.S.Lond., L.M.S.S.A., D.P.M., The Priory, Roehampton, London, S.W. 15.

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1924. **Brown, George, M.B., B.Ch.Glasg., D.P.M., Assistant Medical Officer,** South Yorkshire Mental Hospital, Wadsley, Sheffield.

1905. Brown, Harry Egerton, *O.B.E.*, M.D., Ch.B.Glasg., M.P.C., Physician Superintendent, Mental Hospital, Pietermaritzburg, Natal.

1923. **Brown, Malcolm, M.B., Ch.B.Glasg., Assistant Physician and Patho**logist, Glasgow District Mental Hospital, Gartloch, Gartcosh, N.B,

1908. Brown, Robert Dods, M.D., Ch.B., F.R.C.P.Edin., D.P.H., Dipl. Psych., Medical Superintendent, Royal Mental Hospital, Aberdeen.

1912. **Brown, William, M.D., C.M.Glasg., M.P.C., Medical Officer, Stoke** Park Colony; 1, Manor Road, Fishponds, Bristol.

1916. Brown, William, D.Sc.Lond., M.A., M.D., B.Ch.Oxon., 88, Harley Street, London, W. 1. (Wilde Reader in Mental Philosophy, Univ. Oxford.) (Lect. on Psycho-therapy, King's Coll. Hosp.)

1917. **Bruce, Alexander Ninian, D.Sc., M.D., F.R.C.P.Edin., 8, Ainslie** Place, Edinburgh. (Lect. on Neurol., Univ. of Edinburgh.)

1893. Bruce, Lewis C., *M.C.*, M.D., F.R.C.P.Edin., M.P.C., Medical Superintendent, District Asylum, Druid Park, Murthly. (*Secretary, Scottish Division*, 1901–1907.) (*Co-Editor of Journal*, 1911–1916.)

1927. Brunlees, Oswald, L.R.C.P. & S.Edin., Assistant Medical Officer, Isle of Wight Mental Hospital, Whitecroft, Newport.

1913. **Brunton, George Llewellyn, M.D., Ch.B.Edin., Medical Superintendent,** City Mental Hospital, Mapperley Hill, Nottingham.

1920. **Bryce, William Henderson, M.B., C.M.Edin., Resident Physician,** Kenlaw House, Colinsburgh, Fife.

1912. **Buchanan, William Murdoch, M.B., Ch.B.Glasg., Medical Superinten**dent, Kirklands Mental Hospital, Bothwell, Lanarkshire. (*Secretary, Scottish Division since* 1920.)

1912. **Burke, Joseph Dominick Gabriel, M.B., B.Ch.R.U.I., Deputy Medical** Superintendent, St. Audrey's Hospital, Melton, Suffolk.

1924. Bushe, Charles Kendal, *O.B.E.*, B.A., M.D., B.Ch.Dubl., Surgeon-Capt., R.N., c/o Admiralty Medical Department, London, S.W. 1.

1921. Buzzard, Sir Edward Farquhar, *K.C.V.O.*, M.A., M.D., B.Ch.Oxon., F.R.C.P.Lond., Physician to H.M. The King; Regius Professor of Medicine, Oxford University; 78, Wimpole Street, London, W. 1.

1921. **Caldicott, Charles Holt, *M.B.E.*, M.B., M.R.C.S., L.R.C.P.Lond.,** Grantbourne, Chobham, Surrey.

1925. Cameron, Donald Ewan, M.B., Ch.B.Glasg., D.P.M., Assistant Medical Officer, Glasgow Royal Mental Hospital, Gartnavel.

1927. Cameron, Donald Hugh, M.A., M.D., Ch.B.Edin., D.P.M., Assistant Medical Officer, Gateshead Mental Hospital, Stannington, Northumberland.

1894. **Campbell, Alfred Walter, M.D., C.M.Edin., M.P.C., Macquarie Chambers,** 183, Macquarie Street, Sydney, New South Wales.

1909. Campbell, Donald Graham, M.B., C.M.Edin., Assistant Medical Officer, District Asylum; "Auchinellan," 12, Reidhaven Street, Elgin.

1897. **Campbell, Robert Brown, M.D., C.M., F.R.C.P.Edin., Medical Super**intendent, Stirling District Mental Hospital, Larbert. (*Secretary, Scottish Division*, 1910–20.)

1927. Carey, Catherine, M.B., B.Ch.N.U.I., Assistant Medical Officer, Farnham House, Finglas, co. Dublin.

1905. **Carre, Henry, L.R.C.P.&S.Irel., Medical Superintendent, Glasgow** District Mental Hospital, Woodilee, Lenzie, N.B.

1891. Carswell, John, F.R.F.P.S.Glasg., L.R.C.P.Edin., *J.P.*, Manor Road, Bournemouth.

1922. **Casson, Elizabeth, M.D., Ch.B.Brist., D.P.M., Assistant Medical Officer,** Holloway Sanatorium, Virginia Water, Surrey.

1888. **Chambers, James, M.A., M.D.R.U.I., M.P.C., The Priory, Roehampton,** London, S.W. 15. (*Assistant Editor*, 1900–05, *and Co-Editor of Journal*, 1905–1914.) (*Treasurer since* 1917.) (PRESIDENT, 1913–14.)

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1911. **Chambers, Walter Duncanon, M.A., M.D., Ch.B., F.R.C.P.Edin., M.P.C., Physician Superintendent, James Murray's Royal Asylum; Murray House, Perth.**

1923. **Chevens, Leslie Charles Frederick, M.R.C.S., L.R.C.P.Lond., D.P.M., Assistant Medical Officer, Cheshire County Mental Hospital, Parkside, Macclesfield.**

1917. **Chisholm, Percy, L.R.C.P.&S.Edin., L.R.F.P.S.Glasg., Medical Superintendent, Queen Mary Hospital, Hammersprings, New Zealand.**

1907. Chislett, Charles Game Angus, M.B., Ch.B., F.R.F.P.S.Glasg., Superintendent, Stoneyetts, Chryston, Lanark.

1921. **Cholmeley, Mountague Adye, M.R.C.S., L.R.C.P.Lond., D.P.M., Medical Superintendent, Stretton House, Church Stretton, Salop.**

1920. **Clark, R. M., M.B., C.M.Edin., Medical Superintendent, Lancashire County Mental Hospital, Whittingham, Preston.**

1907. **Clarke, Geoffrey, M.D.Lond., Medical Superintendent, London County Mental Hospital, Bexley, Kent.**

1907. **Clarkson, Robert Durward, B.Sc., M.D., C.M., F.R.C.P.Edin., Medical Officer, Scottish National Institute for the Education of Imbecile Children; The Park, Larbert, Stirlingshire.**

1925. Cobb, Geoffrey F., M.R.C.S., L.R.C.P.Lond., D.P.M., M.P.C., Assistant Physician, Darenth Training Colony, Dartford, Kent.

1900. **Cole, Sydney John, M.A., M.D., B.Ch.Oxon., Medical Superintendent,** Wilts County Mental Hospital, Devizes.

1906. Collier, Walter Edgar, M.R.C.S., L.R.C.P.Lond., Senior Assistant Medical Officer, Kent County Mental Hospital, Barming Heath, Maidstone.

1903. **Collins, Michael Abdy, *O.B.E.*, M.D., B.S., M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Kent County Mental Hospital, Chartham** Downs. (*Hon. General Secretary*, 1912–18.) (*Vice-Chairman, Educational Committee*, 1919–27.)

1910. **Conlon, Thomas Peter, L.R.C.P.&S.Irel., Resident Medical Superintendent,** District Mental Hospital, Monaghan.

1921. **Connell, Ernest Henry, M.B., Ch.B.Edin., D.P.M., 7, Greenhill Gardens, Edinburgh.**

1920. **Connell, Oliver George, *M.C.*, L.R.C.P.&S.Irel., Medical Superintendent,** St. Andrew's Hospital, Thorpe, Norwich.

1914. **Connolly, Victor Lindley, *M.C.*, M.B., B.Ch.Belf., D.P.M., Deputy Medical Superintendent,** Hants County **Mental Hospital,** Park Pewett, Basingstoke.

1927. Cook, L. C., M.R.C.S., L.R.C.P., Assistant Medical Officer, Banstead Mental Hospital, Sutton, Surrey.

1910. **Coombes, Percival Charles, M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Surrey County Mental Hospital, Netherne, nr. Coulsdon.**

1927. Cooper, James Woodman Astley, L.R.C.S., L.R.C.P., L.S.A., Middleton Hall Private Mental Hospital, Almora Hall, Middleton St. George, Durham.

1903. **Cormac, Harry Dove, M.B., M.S.Madras, D.P.M., Medical Superintendent, Cheshire** County **Mental Hospital, Parkside, Macclesfield;** Parkside **House,** Macclesfield. (Lect. on Ment. Dis., Univ. of Manchester.)

1891. **Corner, Harry, M.D., M.R.C.S., L.R.C.P.Lond., M.P.C., Brook House,** Southgate, London, N. 14.

1917. **Costello, Christopher, M.B., B.Ch.N.U.I., Assistant Medical Officer,** Grangegorman Mental Hospital, Dublin.

1910. **Coupland, William Henry, L.R.C.S.&P.Edin., L.R.F.P.S.Glasg., Medical Superintendent, Royal Albert Institution; Albert House,** Haverbreaks, Lancaster.

1911. **Cox, Donald Maxwell, M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, Hereford County Mental Hospital,** Burghill.

1926. **Coyne, William Joseph, M.D., B.Ch., N.U.I., D.P.M., Assistant Physician,** Chiswick House, Chiswick, London, W. 4.

1924. **Craig, Alexander, M.B., Ch.B.Aberd., Assistant Physician, Royal Mental** Hospital, Aberdeen.

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1893. Craig, Sir Maurice, *C.B.E.*, M.A., M.D., B.Ch.Camb., F.R.C.P., M.P.C., 4, Cambridge Gate, Regent's Park, London, N.W. 1. (*Secretary, Educational Committee*, 1905–8; *Chairman, Educational Committee*, 1912–19.)

1924. Craig, Roy Neville, M.D.Durh., M.R.C.S., L.R.C.P.Lond., D.P.M., Heath Court, Barton Road, Torquay.

1925. Creak, Eleanor Mildred, M.B., B.S., M.R.C.S., L.R.C.P.Lond., D.P.M., Assistant Physician, The Retreat, York.

1911. Crichlow, Charles Adolphus, M.B., Ch.B.Glasg., Senior Assistant Medical Officer, Bangour Village, Uphall, Linlithgowshire.

1917. Crocket, James, M.D., F.R.C.P.Edin., D.P.H., Medical Superintendent, Colony of Mercy for Epileptics, Consumption Sanatoria of Scotland, Craigielea, Bridge of Weir.

1915. Crosthwaite, Frederick Douglas, M.B., Ch.B.Edin., D.P.H., Physician Superintendent, Mental Hospital, Queenstown, Cape Province, South Africa.

1923. Crow, Norah Annie, M.A.Edin., M.D., B.S.Lond., "Kingsclere," Harrington Road, Brighton.

1919. Cuthbert, James Harvey, M.B., Ch.B.Edin., D.P.M., Medical Superintendent, West Ham Mental Hospital, Goodmayes, Essex.

1907. Daniel, Alfred Wilson, B.A., M.D., B.Ch.Camb., M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Hanwell Mental Hospital, Southall, Middlesex. (*Secretary, Educational Committee*, 1920–27.)

1926. Darlington, Arthur, B.A., M.B., Ch.B.Dubl., D.P.H., D.P.M., Deputy Medical Superintendent, Bath Mental Hospital, Wells.

1896. Davidson, Andrew, M.D., C.M.Aberd., M.P.C., 221, Macquarie Street, Sydney, New South Wales.

1925. Davidson, Thomas Wishart, M.B., Ch.B.Glasg., D.P.M., Assistant Medical Officer and Pathologist, City Mental Hospital, Humberstone, Leicester.

1922. Davie, Thomas Macnaughton, *M.C.*, M.D., Ch.B.Edin., D.P.M., Barrister-at-Law, Medical Superintendent, East Riding Mental Hospital, Beverley, Yorks.

1921. Davies-Jones, Charles William Saunderson, M.B., Ch.B.Edin., First Assistant Medical Officer, County and City Mental Hospital, Littlemore, Oxford.

1920. Dawson, William Siegfried, M.A., M.D., B.Ch.Oxon., M.R.C.P.Lond., M.R.C.S.Eng., D.P.M., Prof. of Psychiat., The University, Sydney, New South Wales.

1926. Deane, Frederick John, M.B., Ch.B.Edin., Senior Assistant Medical Officer, Down County Mental Hospital, Downpatrick.

1922. Dearden, Harold, B.A.Camb., M.R.C.S., L.R.C.P.Lond., 43, Curzon Street, Mayfair, London, W. 1.

1925. Delany, J. J., L.R.C.P.&S.Irel., 68, Wellington Road, Dublin.

1901. De Steiger, Adele Isabella, M.D.Lond., "Dormansland," Lingfield, Surrey.

1905. Devine, Henry, *O.B.E.*, M.D., B.S., F.R.C.P.Lond., M.R.C.S.Eng., M.P.C., Medical Superintendent, Holloway Sanatorium, Virginia Water, Surrey; The Ridge, Virginia Water, Surrey. (*Assistant Editor*, 1916–1920, *and Co-Editor of Journal*, 1920–27.)

1904. Devon, James, L.R.C.P.&S.Edin., F.R.F.P.S.Glasg., Prison Commissioner for Scotland; 11, Rutland Square, Edinburgh.

1924. Devon, Martha Davidson, L.R.C.P. & S.Edin., L.R.F.P.S.Glasg., Assistant Medical Officer, Stirling District Mental Hospital, Larbert.

1925. Dhunjibhoy, Jal Edulji, M.B., B.S.Bombay, *Capt. I.M.S.*, Medical Superintendent, The Indian Mental Hospital, Kankè, Ranchi, Bihar and Orissa, India; c/o Lloyds Bank, Cox's Branch, Bombay.

1921. Dick, Alexander, *M.C.*, M.B., Ch.B.Glasg., Assistant Medical Officer, Glasgow District Mental Hospital, Woodilee, Lenzie, N.B.

1922. Dickson, James, *M.C.*, M.B., Ch.B.Edin., Crichton Royal Institution, Dumfries.

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1915. **Dillon, Frederick, M.D., Ch.B.Edin., Medical Superintendent, Northumberland House, Finsbury Park, London, N. 4.**

1909. **Dillon, Kathleen, L.R.C.P.&S.Irel., Assistant Medical Officer, District Asylum, Mullingar.**

1905. **Dixon, J. Francis, M.A., M.D., B.Ch.Dubl., M.P.C., Medical Superintendent, City Mental Hospital, Humberstone, Leicester.**

1879. **Dodds, William John, D.Sc., M.D., C.M.Edin., 19, Marina Road, Prestwick, Ayrshire.**

1892. Donelan, John O'Conor, L.R.C.P.&S.Irel., M.P.C., Medical Superintendent, Grangegorman Mental Hospital; St. Dymphna's, North Circular Road, Dublin. (Lect. on Ment. Dis., Univ. of Dublin.)

1919. **Drake-Brockman, Henry George, M.R.C.S., L.R.C.P.Lond., Deputy** Medical Superintendent, St. Luke's Hospital, Middlesbrough.

1923. **Draper, Arthur Phillip, *M.C.*, M.D., B.Ch.Dubl., Capt. *R.A.M.C.*, Mental Specialist, Southern Command, India;** c/o Glyn Mills & Co., 3, Whitehall Place, London, S.W. 1.

1916. **Drummond, William Blackley, M.D., C.M., F.R.C.P.Edin., Medical Superintendent, Baldovan Institution, Dundee.**

1921. **Drury, Kenneth Kirkpatrick, *M.C.*, B.A., M.D., B.Ch.Dubl., Senior Assistant Medical Officer, Stafford** County Mental Hospital; **"Swift Brook," Corporation Street, Stafford.**

1907. Dryden, Arthur Mitchell, M.B., Ch.B.Edin., Medical Superintendent, Glasgow District Mental Hospital, Gartloch, Gartcosh.

1902. **Dudgeon, Herbert Wm., M.D., B.S.Durh., M.R.C.S., L.R.C.P.Lond.,** Director of the Lunacy Department of Public Health, and Director of Abbassia Mental Hospital, Egypt.

1899. **Dudley, Francis, L.R.C.P.&S.Irel., Medical Superintendent, Cornwall** County Mental Hospital, Bodmin.

1926. Duncan, Archibald Glen, M.D., B.S., M.R.C.S., L.R.C.P.Lond., D.P.M., Assistant Medical Officer, Essex County Mental Hospital, Severalls, Colchester.

1922. **Duncan, William Arthur, M.B., Ch.B.Edin., Assistant Medical Officer, East Sussex County Mental Hospital, Hellingly, Sussex.**

1923. Dunne, John, M.B., B.Ch.R.U.I., Dipl. Ment. Dis., Tinnechinch, Enniskerry, co. Wicklow, Ireland.

1922. **Dunscombe, Nicholas Dunscombe, M.A., M.B., B.Ch.Camb., L.M.S.S.A.,** D.P.H., Barrister-at-Law, Assistant Medical Officer of Health; 10, Denzil Avenue, Southampton.

1903. **Dunston, John Thomas, M.D., B.S.Lond., Commissioner for Mental** Hygiene, Union of South Africa, and Medical Superintendent, West Koppies Mental Hospital, Pretoria, South Africa.

1923. Dwyer, Patrick Joseph, M.B., B.Ch.R.U.I., Deputy Medical Superintendent, Portrane Mental Hospital, Donabate, Dublin.

1906. **Eager,** Richard, *O.B.E.*, M.D., Ch.B.Aberd., M.P.C., Medical Superintendent, Devon County Mental Hospital, Exminster.

1891. **Earls,** James Henry, M.D., M.Ch.R.U.I., L.S.A., D.P.H., M.P.C., Barrister-at-Law; Fenstanton, Christchurch Road, Streatham Hill, London, S.W. 2.

1921. **East,** Guy Roland, M.D., B.S., B.Hy.Durh., D.P.H., Medical Superintendent, Northumberland County Mental Hospital, Cottingwood, Morpeth.

1907. **East,** Wm. Norwood, M.D., M.R.C.S., L.R.C.P.Lond., M.P.C., Medical Inspector, H.M. Prisons (England and Wales); Prison Commission, Home Office, Whitehall, Westminster, S.W. 1.

1895. **Eastern**brook, Charles C., M.A., M.D., F.R.C.P.Edin., M.P.C., *J.P.*, Physician Superintendent, Crichton Royal Institution, Dumfries.

1924. **Eddi**son, Herbert Wilfred, M.A., M.B., B.Ch.Camb., M.R.C.S., L.R.C.P. Lond., D.P.M., Assistant Medical Officer, Banstead Mental Hospital, Sutton, Surrey.

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1895. **Edgerley, Samuel, M.A., M.D., C.M.Edin., M.P.C., Medical Superintendent, West Riding Mental Hospital, Menston, Leeds.**
1897. **Edwards, Francis Henry, M.D.Brux., M.R.C.S., M.R.C.P.Lond., "Cherchefelle," Reigate, Surrey.**
1924. Edwards, Thomas Lloyd, L.R.C.P.&S Edin., L.R.F.P.S.Glasg., D.P.M., Assistant Medical Officer, Glamorgan County Mental Hospital, Bridgend.
1919. Eggleston, Henry, M.B., B.S.Durh., M.P.C., Filey Lodge, Billericay, Essex.
1901. **Elgee, Samuel Charles, *O.B.E.*, L.R.C.P.&S.Irel., Medical Superintendent, Cane Hill Mental Hospital, Purley, Surrey.**
1889. Elkins, Frank Ashby, M.D., C.M.Edin., M.P.C., Hormead, Parkside Drive, Watford, Herts.
1908. Ellison, Arthur, M.R.C.S., L.R.C.P.Lond., 120, Domestic Street, Holbeck, Leeds.
1901. **Erskine, Wm. J. Adams, M.D., C.M.Edin., Medical Superintendent, Isle of Wight Mental Hospital, Whitecroft, Newport.**
1926. Esson, Walter Louis, M.A., M.B., Ch.B.Aberd., Assistant Medical Officer, Devon County Mental Hospital, Exminster.
1895. **Eurich, Frederick Wilhelm, M.D., C.M.Edin., Lanshawe Cottage, Ilkley,** Yorks. (Prof. of For. Med., Univ. of Leeds.)
1909. **Eustace, William Neilson, L.R.C.S.&P.Irel., Resident Medical Officer, Glasnevin, Dublin.**
1918. Evans, Albert Edward, M.B., B.S.Lond., M.R.C.S., L.R.C.P.Lond., D.P.H., Inspector, Board of Control; 3, Rotherwick Court, Golders Green, London, N.W. 11.
1927. Ewan, Grey Lamont, *J.P.*, B.Sc., M.B., Ch.M.Sydney, D.P.M., Medical Superintendent, The Mental Hospital, Stockton, nr. Newcastle, New South Wales.
1891. **Ewan, John Alfred, M.A.St.And., M.D., C.M.Edin., M.P.C., Greylees,** Godalming, Surrey.
1914. **Ewing, Cecil Wilmot, L.R.C.P.&S.Irel., D.P.M., Deputy Medical Superintendent, Storthes Hall Mental Hospital, Kirkburton, nr. Huddersfield.**

1925. Fairweather, Anne, M.B., B.S.Durh., D.P.M., Senior Assistant Medical Officer, Winson Green Mental Hospital, Birmingham.
1894. **Farquharson, William F., M.D., C.M.Edin., M.P.C., Medical Superintendent, Cumberland and Westmorland County Mental Hospital,** Garlands, Carlisle.
1907. **Farries, John Stothart, L.R.C.P.&S.Edin., L.R.F.P.S.Glasg., The** Cottage, Hethersgill, Carlisle.
1903. Fennell, Charles Henry, M.A., M.D.Oxon., M.R.C.P.Lond., 27, Cadogan Court, London, S.W. 3.
1908. **Fenton, Henry Felix, M.B., Ch.B.Edin., Medical Superintendent,** Worcester County and City Mental Hospital, Powick.
1906. Fielding, Saville James, M.B., B.S.Durh., Medical Superintendent, Bethel Hospital, Norwich.
1889. **Finlay, David, M.D., C.M.Glasg., Medical Superintendent, Glamorgan** Mental Hospital, Bridgend.
1906. **Firth, Arthur Harcus, M.A., M.D., B.Ch.Edin., Deputy Medical Superintendent, Worcester County Mental Hospital, Barnesley Hall,** Bromsgrove.
1903. **Fitzgerald, Alexis, L.R.C.P.&S.Irel., Medical Superintendent, District Mental Hospital, Waterford.**
1908. Fitzgerald, James Francis, L.R.C.P.&S.Irel., Assistant Medical Officer, District Mental Hospital, Clonmel.
1921. **Fleming, Gerald William Thomas Hunter, M.R.C.S., L.R.C.P.Lond.,** D.P.M., Deputy Medical Superintendent, Dorset County Mental Hospital, Herrison, near Dorchester.
1904. **Fleming, Wilfrid Louis Remi, M.R.C.S., L.R.C.P.Lond., *J.P.*, Suffolk House, Pirbright, Surrey.**

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1925. **Flind, James, M.B., Ch.B.Glasg., Senior Assistant Medical Officer,** Peckham House, London, S.E. 15.

1927. Footerman, Mark, M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, Herts County Mental Hospital, Hill End, St. Albans.

1925. **Forbes, Hugh Scott, M.R.C.S., L.R.C.P.Lond., D.P.M., Assistant Medical Officer, Colney Hatch Mental Hospital, New Southgate,** London, N. 11.

1927. Ford-Robertson, William Marsden, M.B., Ch.B.Edin., Assistant Medical Officer, Pathologist and Bacteriologist, St. Andrew's Hospital; 66, Billing Road, Northampton.

1911. **Forrester, Archibald Thomas William, M.D., B.S., M.R.C.S., L.R.C.P. Lond., Medical Superintendent, Warwick County Mental Hospital, Hatton.**

1926. Forrester, Robert Cairns, M.B., Ch.B.Edin., Assistant Medical Officer, Stirling District Mental Hospital, Larbert.

1916. **Forsyth, Charles Wesley, M.D., M.R.C.S., L.R.C.P.Lond., Medical** Superintendent, Winson Green Mental Hospital, Birmingham. (Clin. Lect. on Ment. Dis., Univ. of Birmingham.)

1924. **Forsythe, Thomas Ronald, M.B., Ch.B.Sheff., D.P.M., Assistant** Medical Officer, Kent County Mental Hospital, Maidstone.

1913. **Forward, Ernest Lionel, M.R.C.S., L.R.C.P.Lond., D.C.M.S. Ministry of Pensions, 1, Sanctuary Buildings, London, S.W. 1.**

1925. **Fox, Francis Elliot, B.A.Camb., M.R.C.S., L.R.C.P.Lond., Medical** Officer, Brislington House, Bristol.

1920. **Fox, J. Tylor, M.A., M.D., B.Ch.Camb., M.R.C.S., L.R.C.P.Lond., D.P.M., Medical Superintendent, Lingfield Epileptic Colony;** The Homestead, Lingfield, Surrey.

1923. **Franklin, Marjorie Ellen, M.B., B.S., M.R.C.S., L.R.C.P.Lond., D.P.M., Assistant, London Clinic for Psycho-Analysis; 55, Welbeck** Street, Cavendish Square, London, W. 1.

1919. **Fraser, Kate, B.Sc., M.D., Ch.B.Glasg., D.P.H., Deputy Commissioner,** General Board of Control, Scotland; 25, Palmerston Place, Edinburgh.

1921. **Fuller, Hugh Hercus Cavendish, M.B., Ch.B.Edin., "Oakdale," Priory Road, Great Malvern.**

1902. **Fuller, Lawrence Otway, M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Three Counties Mental Hospital, Arlesey, Beds.**

1927. Gamble, Florence Margaret, M.B., B.S., M.R.C.S., L.R.C.P.Lond., D.P.M., Assistant Medical Officer, Warwick County Mental Hospital, Hatton.

1906. **Gane, Edward Palmer Steward, M.D.Durh., M.R.C.S., L.R.C.P. Lond., Assistant Medical Superintendent, The Coppice, Nottingham.**

1912. **Garry, John William, M.B., B.Ch.N.U.I., Assistant Medical** Superintendent, District Mental Hospital, Ennis.

1912. **Gavin, Lawrence, M.B., Ch.B., L.R.C.P.&S.Edin., L.R.F.P.S.Glasg., Medical Superintendent, District Asylum, Mullingar.**

1896. **Geddes, John William, M.B., C.M.Edin., 15, Guessens Court, Welwyn** Garden City, Herts.

1923. **Gibson, George Herbert Rae, *D.S.O.*, M.D., F.R.C.P.Edin., L.C.P.S.** Brit. Columbia, Dipl. Psych.; Deputy Commissioner, General Board of Control, Scotland; 23, Cluny Terrace, Edinburgh.

1919. **Gifford, John, B.A.Cape, M.B., Ch.B.Edin., D.P.M., Deputy Medical** Superintendent, Lancashire County Mental Hospital, Winwick, Warrington.

1921. **Gilfillan, John Aitken, M.D., Ch.B., F.R.F.P.S.Glasg., D.P.M., Deputy** Medical Superintendent, North Riding Mental Hospital, Clifton, York.

1899. **Gilfillan, Samuel James, *O.B.E.*, M.A., M.B., C.M.Edin., Medical Superintendent, Colney Hatch Mental Hospital, New Southgate, London,** N. 11.

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1923. **Gillespie, Isabella Annie, M.B., B.Ch.Edin., D.P.M., Assistant Medical Officer, Cheshire County Mental Hospital, Upton, Chester.**

1921. **Gillespie, Robert Dick, M.D., Ch.B.Glasg., D.P.M., 152, Harley Street,** London, W. 1. (Lect. on Psychol. Med., Guy's Hospital.)

1920. Gillis, Kurt, M.B., Ch.B.Edin., Medical Superintendent, Mental Hospital, Bloemfontein, South Africa.

1897. **Gilmour, John Rutherford, M.B., C.M., F.R.C.P.Edin., M.P.C., Medical** Superintendent, West Riding Mental Hospital, Scalebor Park, Burley-in-Wharfedale, Yorks. (*Secretary, N. and M. Division*, 1920–27.)

1906. **Gilmour, Richard Withers, M.B., B.S.Durh., M.R.C.S., L.R.C.P.Lond.,** Physician-in-Charge, St. Luke's Hospital; 39, Harley Street, London, W. 1. (Lect. on Psychiat., Middlesex Hospital, London.)

1927. Goitein, Percy L., M.B., B.S., M.R.C.S., L.R.C.P.Lond., D.P.M., Deputy Medical Superintendent, Northumberland House; 23, Blomfield Road, Maida Hill, London, W. 9.

1923. **Golla, Frederick Lucien, M.A., M.B., B.Ch.Oxon., F.R.C.P., Director of the Laboratory and Pathologist, London County** Mental Hospitals, The Maudsley Hospital, Denmark Hill, London, S.E. 5; The Dene, Sunninghill.

1897. **Good, Thomas Saxty, *O.B.E.*, M.A.Oxon., M.R.C.S., L.R.C.P.Lond.,** Medical Superintendent, County and City Mental Hospital, Littlemore, Oxford.

1889. **Goodall, Edwin, *C.B.E.*, M.D., B.S., F.R.C.P.Lond., M.P.C., Medical** Superintendent, City Mental Hospital, Whitchurch, Cardiff. (PRESIDENT, 1923–24.) (Lect. on Ment. Dis., Welsh Nat. School of Medicine, Cardiff.)

1920. Gordon, George, M.B., Ch.B.Glasg., Deputy Medical Superintendent, Queen Alexandra Hospital [M. of P.], Cosham, Hampshire.

1899. Gordon, James Leslie, M.D., C.M.Aberd., Medical Superintendent, Caterham Mental Hospital; Karaissi, Caterham, Surrey.

1901. **Gostwyck, Cecil Hubert Gostwyck, M.B., Ch.B., F.R.C.P.Edin.,** Dipl. Psych., M.P.C., Assistant Medical Officer, Rampton State Institution, Retford, Notts.

1923. Gough, Isabel Falconer, M.B., Ch.B., L.R.C.P.&S.Edin., L.R.F.P.S. Glasg., D.P.M., Three Corner Park, Calstock, Cornwall.

1914. **Graham, Norman Bell, *M.C.*, B.A.R.U.I., M.B., B.Ch.Belf., D.P.M.,** Senior Assistant Medical Officer, Purdysburn Villa Colony, Belfast.

1894. **Graham, Samuel, L.R.C.P.Lond., Resident Medical Superintendent,** District Asylum, Antrim.

1918.. Graham, Samuel John, L.R.C.P.&S.Edin., L.R.F.P.S.Glasg., Resident Medical Superintendent, Purdysburn Villa Colony, Belfast.

1908. Graham, William Shepherd, M.B., B.Ch.R.U.I., Senior Assistant Medical Officer, Somerset and Bath Asylum, Cotford, near Taunton.

1921. **Grant, Alastair Robertson, M.B., Ch.B.Aberd., Deputy Medical Super-** intendent, Lancashire County Mental Hospital, Whittingham, Preston.

1925. Grant, John King, M.B., Ch.B.Aberd., Assistant Physician, Royal Mental Hospital, Aberdeen.

1915. Graves, Thomas Chivers, B.Sc., M.D., B.S.Lond., F.R.C.S.Eng., M.R.C.P.Lond., M.R.C.V.S., Medical Superintendent, Rubery Hill and Hollymoor Mental Hospitals, Northfield, Birmingham.

1916. **Gray, Cyril, L.R.C.P.&S.Edin., L.R.F.P.S.Glasg., Senior Assistant** Medical Officer, City Mental Hospital, Gosforth, Newcastle-upon-Tyne.

1921. **Gray, Joseph Anthony Wenceslaus Pereira, M.D.Brux., M.R.C.S.,** L.R.C.P.Lond., Visitor of Licensed Houses; 3, Northernhay Place, Exeter.

1909. **Greene, Thomas Adrian, L.R.C.S.&P.Irel., *J.P.*,** Medical Superintendent, District Mental Hospital, Carlow.

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1922. **Gregorson, Albert William, M.D., Ch.B., F.R.F.P.S.Glasg., Assistant Physician and Deputy Superintendent, North Middlesex Hospital,** London; 9, Aubrey Crescent, Largs, Ayrshire.

1927. Grierson, Hugh Arrowsmith, *M.C.*, M.B., B.S.Lond., Medical Officer, H.M. Prison, Brixton, S.W. 2.

1926. Griffiths, Gwenvron Mary, M.D., M.R.C.P.Lond., Assistant Medical Officer, Stafford Mental Hospital, Cheddleton.

1901. Grills, Galbraith Hamilton, M.D., B.Ch.R.U.I., D. Ment. Dis., M.P.C., Medical Superintendent, Cheshire County Mental Hospital, Upton, Chester.

1916. Grimbly, Alan Francis, M.A., M.D., B.Ch.Dubl., D.P.M., 43, Killieser Avenue, Streatham Hill, London, S.W. 2.

1923. Grossman, Simon, M.R.C.S., L.R.C.P.Lond., Transvaal Drug Company, Johannesburg, South Africa.

1922. **Guppy, Francis Henry, *M.C.*, M.R.C.S., L.R.C.P.Lond., D.P.M., Deputy** Medical Superintendent, Brighton Mental Hospital, Haywards Heath, Sussex.

1894. Halsted, Harold Cecil, M.D.Durh., L.S.A., M.R.C.S., L.R.C.P.Lond., Manor Road, Selsey, Sussex.

1920. Hancock, Allen Coulter, *M.C.*, M.R.C.S., L.R.C.P.Lond., D.P.H., D.P.M., Deputy Medical Superintendent, Horton Mental Hospital, Epsom.

1923. **Hardcastle, Douglas Nöel, M.R.C.S., L.R.C.P.Lond., D.P.M., Physician,** Moorcroft House and Hayes Park; Coneycote, Hillingdon, Uxbridge, Middlesex.

1920. Harding, Edward Palmer, L.R.C.P.&S.Irel., Deputy Medical Superintendent, East Riding Mental Hospital, Beverley.

1920. Harper, Raymond Sydney, M.R.C.S., L.R.C.P.Lond., 36, First Avenue, Hove, Sussex.

1904. **Harper-Smith, George Hastie, M.A., M.D.Camb., M.R.C.S., L.R.C.P. Lond., Medical Superintendent, Brighton Mental Hospital; Galagate, Haywards Heath, Sussex.**

1924. Harris, John Stuart, M.D., Ch.B.Edin., D.P.M., Senior Assistant Medical Officer, The Maudsley Hospital, Denmark Hill, London, S.E. 5.

1898. **Harris-Liston, Llewellyn, M.D.Brux., L.S.A., M.R.C.S., L.R.C.P.Lond.,** The Grove, Middleton St. George, co. Durham.

1905. **Hart, Bernard, M.D., F.R.C.P., M.R.C.S.Eng., 94, Harley Street,** London, W. 1. (Lect. on Ment. Dis., Univ. Coll. Hosp.)

1886. **Harvey, Bagenal Crosbie, L.A.H.Dubl., L.R.C.P.&S.Edin., Resident** Medical Superintendent, District Mental Hospital, Clonmel.

1892. **Haslett, William John Handfield, M.R.C.S., L.R.C.P.Lond., M.P.C., *J.P.*,** Resident Medical Superintendent, Halliford House, Sunbury-on-Thames.

1923. **Hayes, Edmund Duncan Tranchell, B.A., M.D., B.Ch.Dubl., D.P.M.,** Assistant Medical Officer, County Mental Hospital, Berry Wood, Northampton.

1924. Hayes, Henry Douglas, M.D., Ch.B.Edin., D.P.M., The Mental Hospital, Porirua, Wellington, New Zealand.

1920. **Haynes, Horace Guy Lankester, M.R.C.S., L.R.C.P.Lond., Littleton Hall, Brentwood, Essex.**

1927. Healey, Frederick Henry, B.Sc., M.B., Ch.B.Birm., D.P.M., Assistant Medical Officer, Cheshire County Mental Hospital, Upton, Chester.

1920. Henderson, Cyril John, M.B.Durh., Assistant Medical Officer, The Royal Albert Institution, Lancaster.

1916. **Henderson, David Kennedy, M.D., Ch.B.Edin., F.R.F.P.S.Glasg.,** Physician Superintendent, Glasgow Royal Mental Hospital, Gartnavel; 2, Whittingham Gardens, Glasgow. (Lect. on Ins., Univ. of Glasgow.)

1905. **Henderson, George, M.A., M.B., Ch.B.Edin., 25, Commercial Road, Peckham, London, S.E. 15.**

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1923. **Henderson, Norman Keane, B.A., LL.B.Camb., M.B., Ch.B.Edin., D.P.H., D.P.M., Senior Assistant Medical Officer, Lincoln County Mental Hospital, Bracebridge Heath.**

1923. **Hennessy, James Alphonsus, M.B., Ch.B.Edin., Bryce Street, Strannon, New Zealand.**

1926. **Henry, Dorothy Isabel, M.B., B.Ch.Dubl., Medical Officer, The Retreat, Armagh.**

1924. **Hensman, Henry Saumarez, L.M.&S.Madras, M.R.C.S., L.R.C.P.Lond., M.P.C., Medical Superintendent, Government Mental Hospital, Kilpauk, Madras.**

1924. **Herbert, J. E., M.B., B.Ch.R.U.I., Senior Assistant Medical Officer, District Asylum, Omagh.**

1925. **Heron, John, M.B., Ch.B.Edin., D.P.M., Assistant Medical Officer, Kent County Mental Hospital, Maidstone.**

1912. **Higson, William Davies, M.B., Ch.B.Liverp., D.P.H., Medical Officer, H.M. Prison; "Eversley," Boxley Road, Maidstone, Kent.**

1927. **Hinchco, Harold, M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, Park Mental Hospital, Epsom.**

1900. **Hollander, Bernard, M.D.Freib., M.R.C.S., L.R.C.P.Lond., 57, Wimpole Street, London, W. 1.**

1925. **Home, Bruce Fordyce, L.R.C.P.&S.Edin., L.R.F.P.S.Glasg., c/o D.M.S., Lagos, Nigeria.**

1925. **Honan, Bernard Francis, L.R.C.P.&S.Irel., D.P.M., Assistant Medical Officer, Down County Mental Hospital, Downpatrick.**

1920. **Hooper, Reginald Arthur, M.B., B.S.Durh., Medical Superintendent, City Mental Hospital, Fulford, Yorks.**

1926. **Hopwood, Joseph Stanley, M.B., B.S., M.R.C.S., L.R.C.P.Lond., Medical Officer, State Criminal Lunatic Asylum, Broadmoor.**

1914. **Horne, Laura Katherine, M.B., Ch.B.Edin., Poole, Dorset.**

1926. **Horton, Phyllis Mary, M.R.C.S., L.R.C.P.Lond., House Physician, Lady Chichester Hospital, Hove, Sussex.**

1918. **Horton, Wilfred Winnall, M.D., C.M.Edin., Medical Superintendent, Wye House, Buxton.**

1926. **Hosie, William, M.B., Ch.B.Glasg., Assistant Medical Officer, Derby County Mental Hospital, Mickleover,**

1894. **Hotchkis, Robert Dunmore, M.A.Glasg., M.D., B.S.Durh., M.R.C.S., L.R.C.P.Lond., M.P.C., Medical Superintendent, Renfrew District Mental Hospital, Dykebar, Paisley.**

1912. **Hughes, Frank Percival, M.B., B.S., M.R.C.S., L.R.C.P.Lond., The Grove, Pinner, Middlesex.**

1900. **Hughes, Percy T., M.B., C.M.Edin., D.P.H., Medical Superintendent, Worcester County Mental Hospital, Barnesley Hall, Bromsgrove. (Lect. on Ment. Dis., Univ. of Birmingham.)**

1904. **Hughes, William Stanley, M.B., B.S., M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Salop County Mental Hospital, Bicton Heath, Shrewsbury.**

1897. **Hunter, David, M.A., M.B., B.Ch.Camb., L.S.A., Medical Superintendent, The Coppice, Nottingham. (*Secretary, S.E Division*, 1910–1913.)**

1912. **Hunter, George Yeates Cobb, M.R.C.S., L.R.C.P.Lond., M.P.C., *I.M.S.*, c/o Messrs. Grindlay & Co., 54, Parliament Street, London, S.W. 1.**

1904. **Hunter, Percy Douglas, M.R.C.S., L.R.C.P.Lond., D.P.M., Deputy Medical Superintendent, Three Counties Mental Hospital, Arlesey.**

1911. **Hutton, Isabel Emslie, M.D., Ch.B.Edin., Hon. Physician, British Hospital for Mental and Nervous Disorders; 6, Montagu Place, London, W. 1.**

1888. **Hyslop, Theo. Bulkeley, M.D., C.M., M.R.C.P., L.R.C.S., F.R.S.Edin., M.P.C., 5, Portland Place, London, W. 1. (*Chairman, Library Committee*, 1926–27.)**

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1926. Illingworth, Reginald Ernest, L.R.C.P.&S., L.D.S.Edin., Dipl. Psych., Deputy Medical Superintendent, Northumberland County Mental Hospital, Cottingwood, Morpeth.

1915. Ingall, Frank Ernest, L.R.C.P.Lond., F.R.C.S.Eng., D.P.H., Public Health Offices, Clarence Street, Southend-on-Sea.

1908. Inglis, James Pringle Park, M.D., Ch.B.Edin., Senior Assistant Medical Officer, Leavesden Mental Hospital, King's Langley, Herts.

1926. Ironside, Archibald Jennings, M.B., Ch.B.Aberd., Assistant Physician, Mental Hospital, Pietermaritzburg, Natal, South Africa.

1906. Irwin, Peter Joseph, L.R.C.P.&S.Irel., Medical Superintendent, District Mental Hospital, Limerick.

1923. Jack, Victor William, M.B., Ch.B.Edin., Senior Assistant Medical Officer, Stirling District Mental Hospital, Larbert.

1920. Jackson, John Luke, M.B., B.Ch.Belf., Medical Superintendent, Hants County Mental Hospital, Knowle, Fareham.

1927. Jacob, Frank Harwood, M.D., F.R.C.P.Lond., Hon. Physician, General Hospital ; 32, Regent Street, Nottingham.

1927. Jacobson, Jack Nathan, M.R.C.S., L.R.C.P.Lond., D.P.M., Assistant Medical Officer, Tooting Bec Mental Hospital, London, S.W. 17.

1914. James, George William Blomfield, *M.C.*, M.D., B.S.Lond., L.S.A., D.P.M., Physician, Moorcroft House, Hillingdon, Uxbridge. (*Secretary, Parliamentary Committee since* 1926.) (Lect. on Ment. Dis., St. Mary's Hosp.)

1921. Jardine, Maurice Kirkpatrick, M.B., Ch.B.Edin., The Infirmary, Shirley Warren, Southampton.

1922. Jarrett, R. F., L.M.S.S.A., F.R.F.P.S.Glasg., Medical Officer, H.M. Prison, Cardiff.

1908. Jeffrey, Geo. Rutherford, M.D., Ch.B.Glasg., F.R.C.P., F.R.S.Edin., M.P.C., Medical Superintendent, Bootham Park, York.

1925. Jenkins, John Alexander, M.B., Ch.B.Glasg., Assistant Medical Officer, Mental Hospital, Larbert.

1924 Jenkins, Reginald Edward, L.M.S.S.A., St. Andrew's Hospital, Thorpe, nr. Norwich.

1893. Johnston, Gerald Herbert, L.R.C.P.&S.Edin., L.R.F.P.S.Glasg., Brooke House, Upper Clapton, London, E. 5.

1905. Johnston, Thomas Leonard, L.R.C.P.&S.Edin., L.R.F.P.S.Glasg., Heckington Hall, Sleaford.

1903. Johnstone, Thomas, M.D., C.M.Edin., M.R.C.P.Lond., 6, Victoria Avenue, Harrogate.

1879. Kay, Walter Smith, M.D., C.M.Edin., M.R.C.S.Eng., Granby Hotel, Harrogate.

1927. Kearney, Joseph, M.B., B.Ch.R.U.I., Assistant Medical Officer, Tirconaill District Mental Hospital, Letterkenny, Ireland.

1886. Keay, John, *C.B.E.*, M.D., C.M.Glasg., F.R.C.P.Edin., Medical Superintendent, Bangour Village, Uphall, Linlithgowshire. (PRESIDENT 1918.) (*Chairman, Educational Committee*, 1920–27.) (Lect. on Ment. Dis., Roy. Colls., Edin.)

1909. Keith, William Brooks, *M.C.*, M.D., Ch.B.Aberd., M.P.C., Medical Superintendent, St. Audry's Hospital, Melton ; Redwald House, Melton, Suffolk. (*Secretary, Parliamentary Committee*, 1921–26.)

1924. Kelly, Daniel Lane, L.R.C.P.&S.Irel., Inspector of Mental Hospitals, Local Government Department ; Custom House, Dublin.

1907. Keene, George Henry, M.D., B.Ch.Dubl., Medical Superintendent, Stewart Institution, Palmerston ; 14, Palmerston Park, Dublin.

1899. Kennedy, Hugh T. J., L.R.C.P.&S.Irel., Medical Superintendent, District Mental Hospital, Enniscorthy.

1897. Kerr, Hugh, M.A., M.D., C.M.Glasg., Medical Superintendent, Bucks County Mental Hospital, Stone, Aylesbury.

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1902. **Kerr, Neil Thomson, M.B., C.M.Edin., *J.P.*, Medical Superintendent,** Lanark District Mental Hospital, Hartwood, N.B.

1920. **Key, Gordon James, M.B., Ch.B.Aberd., Assistant Medical Superintendent, Valkenburg Mental Hospital, Observatory Road, Cape Town, South Africa.**

1923. **el Kholy, Mohamed Kamel, M.R.C.S., L.R.C.P.Lond., D.P.M., Assistant Medical Officer,** Abbassia Mental Hospital, Egypt.

1923. **Kiddle, Frederick,** *C.M.G.*, B.A., M.B., B.Ch.Dubl., St. Clare Road, Colchester.

1920. **Kimber, William Joseph Teil, M.R.C.S., L.R.C.P.Lond., D.P.M.,** Medical Superintendent, Herts County Mental Hospital, Hill End, St. Albans. (*Secretary, Educational Committee since* 1927.)

1903. **King, Frank Raymond, B.A.Camb., M.R.C.S., L.R.C.P.Lond., Medical Superintendent,** Peckham House, Peckham, London, S.E. 15.

1902. **King-Turner, Arthur Charles, M.B., C.M.Edin., Medical Superintendent,** The Retreat, Fairford, Gloucestershire.

1915. **Kirwan, Richard R., M.B., B.Ch.R.U.I., Assistant Medical Officer, West** Riding Mental Hospital, Menston, Leeds.

1919. **Knight, Mary Reid, M.A., M.B., Ch.B.Glasg., Assistant Medical Officer,** Paisley Mental Hospital, Riccartsbar, N.B.

1898. **Labey, Julius, L.S.A., M.R.C.S., L.R.C.P.Lond., Medical Superintendent,** Public Asylum, Jersey; **The Myrtles, St. Saviour's, Jersey.**

1914. **Ladell, Robert George Macdonald, M.B., Ch.B.Vict., Medical Officer, Ministry of Pensions, 395, Coventry Road, Small Heath, Birmingham.**

1923. **Laing, John Kidd Collier, M.B., B.S.Melb., D.P.M., Assistant Medical** Officer, Colney Hatch Mental Hospital, New Southgate, London, N. 11.

1925. **Landers, John Joseph, M.B., B.Ch.Camb., D.P.H., Medical Officer,** H.M. Boys' Prison, Wandsworth, London, S.W. 18.

1896. **Langdon-Down, Reginald L., M.A., M.B., B.Ch.Camb., M.R.C.P.Lond.,** Normansfield, Hampton Wick, **Middlesex.**

1919. **Langton, Peregrine Stephen Brackenbury, M.B., B.S., M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Royal Earlswood Institution,** Redhill, Surrey.

1925. **Lascelles, William James, M.B., B.Ch.Belf., D.P.M., Assistant Medical** Officer, Claybury Mental Hospital, Woodford Bridge, Essex.

1919. **Latham, Oliver, M.B., C.M.Syd., Pathologist, Mental Hospitals Laboratory, Medical School, Newtown University, Sydney, N.S.W.**

1898. **Lavers, Norman, M.D.Brux., M.R.C.S., L.R.C.P.Lond., Medical Superintendent,** Bailbrook House, Bath.

1892. **Lawless, George Robert, L.R.C.P., F.R.C.S.Irel., Medical Superintendent,** District Asylum, Armagh.

1923. **Lawrie, Macpherson, M.A., M.B., B.Ch.Camb.,** 39, Harley Street, London, W. 1.

1915. **Leech, Henry Brougham, B.A., M.D., B.Ch.Dubl., Deputy Medical** Superintendent, Warwick County Mental Hospital, Hatton. (*Acting Registrar* 1923–24.)

1909. **Leech, John Frederick Wolseley, B.A., M.D., B.Ch.Dubl., Assistant** Medical Officer, Wilts County Mental Hospital, Devizes.

1899. **Leeper, Richard R., L.R.C.P., F.R.C.S.Irel., M.P.C., Medical Superintendent,** St. Patrick's Hospital, Dublin. (*Secretary, Irish Division since* 1911.)

1906. **Leggett, William, B.A., M.D., B.Ch.Dubl., Medical Officer, Smithston** Mental Hospital, **Greenock.**

1927. **Levinson, Reuben, M.B., Ch.B.Edin., D.P.H., Assistant Medical Officer,** West Ham Mental Hospital, Goodmayes, Essex.

1916. **Lewis, Edward, L.R.C.P.&S.Edin., F.R.F.P.S.Glasg., Medical Superintendent,** Drymma Hall, Skewen, near Neath.

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1924. **Lewis, John Biddulph Strafford, M.R.C.S., L.R.C.P.Lond., D.P.M.,** Assistant Medical Officer, Colney Hatch Mental Hospital, New Southgate, London, N. 11.

1920. **Lilly, George Austen, *M.C.*, M.A., M.D.Camb., M.R.C.S., L.R.C.P.Lond.,** D.P.M., Deputy Medical Superintendent, Banstead Mental Hospital, Sutton, Surrey.

1927. Lindsay, Thomas, M.D., F.R.C.S.Edin., D.P.M., Senior Assistant Medical Officer, Tooting Bec Mental Hospital, London, S.W. 17.

1908. Litteljohn, Edward Salterne, M.R.C.S., L.R.C.P.Lond., **Medical Superintendent, Manor Certified Institution, Epsom.**

1925. **Littlejohn, Mary Victoria, M.B., Ch.B.Aberd., D.P.M., Assistant** Medical Officer, Warwick County Mental Hospital, Hatton.

1921. **Livesay, Arthur William Bligh, M.B., C.M., F.R.C.S.Edin., Assistant** Medical Officer, St. Andrew's Hospital, Thorpe, Norwich.

1922. **Logan, Frederick Colquhoun, M.B., Ch.B., F.R.F.P.S.Glasg., Deputy** Medical Superintendent, Lancashire County Mental Hospital, Prestwich, Manchester.

1898. Lord, John Robert, *C.B.E.*, M.D., C.M., F.R.C.P.Edin., Medical Superintendent, Horton Mental Hospital, Epsom; Horton House, Epsom. (*Assistant Editor*, 1900–11, and *Co-Editor of Journal since* 1911.) (*Secretary, Post-Graduate Study Committee*, 1920–26.) (*Chairman, Research and Clinical Committee since* 1927.) (PRESIDENT, 1926–27.)

1924. **Lornie, Peter, M.D., Ch.B.Edin., Senior Assistant Medical Officer, Monmouth County Mental Hospital, Abergavenny.**

1924. **Lothian, Douglas, B.M., M.B., Ch.B.Edin., D.P.M., Assistant Physician,** Royal Mental Hospital, Morningside, Edinburgh.

1923. **Lovell, Clement, M.D., B.S.Lond., Pathologist, Bethlem** Royal Hospital, Lambeth, London, S.E. 1.

1906. **Lowry, James Arthur, M.D., B.Ch.R.U.I., Medical Superintendent, Surrey County Mental Hospital, Brookwood.**

1926. Lucas, Edmund Stanley Sayer, M.R.C.S., L.R.C.P.Lond., 154, Hardy Street, Nelson, New Zealand.

1926. Lucas, Rosalie Evelyn, M.B., Ch.B.Brist., M.R.C.S., L.R.C.P.Lond., 33, Upper Belmont Road, St. Andrews Bristol.

1923. Lynch, William Joseph, M.B., B.Ch.R.U.I., 430, First National Bank Building, Denver, Colorado, U.S.A.

1923. **Lyon, Thomas Malcolm Murray, M.D., C.M.Edin., *J.P.*, 46, Palmerston Place, Edinburgh.**

1920. McAlister, William Malcolm, M.A., M.B., Ch.B., M.R.C.P.Edin., Deputy Physician-Superintendent, Royal Mental Hospital, Morningside, Edinburgh. (Lect. on Psychiat., Univ. of Edinburgh.)

1926. McCallum, Alexander Grigor, M.B., Ch.B.Glasg., Assistant Medical Officer, Peckham House, London, S.E. 15.

1906. **Macarthur, John, M.R.C.S., L.R.C.P.Lond., D.P.M., Medical** Superintendent, Lincoln County Mental Hospital, Bracebridge Heath.

1923. Macaulay, Douglas Ian Otto, M.D., Ch.B.Edin., D.P.M., Medical Superintendent, Chiswick House, Chiswick, London, W. 4.

1880. **MacBryan, Henry Crawford, L.R.C.P.&S.Edin., Kingsdown House, Box, Wilts.**

1923. **McCarthy, Owen Felix, L.R.C.P.&S.Edin., L.R.F.P.S.Glasg., Resident Medical Superintendent, District Mental Hospital, Cork. (Lect. on Ment. Dis., Univ. Coll., Cork.)**

1900. **McClintock, John, L.R.C.P.&S.Edin., Resident Medical Superintendent, Grove House, Church Stretton, Salop.**

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1922. McCord, Robert Neal Ballagh, M.B., B.Ch.Belf., Senior Assistant Medical Officer, Surrey County Mental Hospital, Brookwood.

1927. McCoull, George, M.B., B.S.Durh., L.R.C.P.&S.Edin., L.R.F.P.S.Glasg., Medical Officer, Prudhoe Hall Colony for Mental Defectives, Tyne View, Prudhoe-on-Tyne.

1920. McCowan, Peter Knight, M.D., Ch.B.Edin., M.R.C.P.Lond., D.P.M., Assistant Medical Officer, West Park Mental Hospital, Epsom.

1921. McCutcheon, Archibald Munn, M.B., Ch.B., F.R.F.P.S.Glasg., Medical Superintendent, Monyhull Colony, King's Heath, Birmingham.

1923. Macdonald, Colin, L.R.F.P.S.Glasg., Medical Officer of Kilfinichen; Bunessau, Mull, by Oban, N.B.

1901. MacDonald, James Hogg, M.B., Ch.B., F.R.F.P.S.Glasg., Medical Superintendent, Govan District Asylum, Hawkhead, Cardonald, Glasgow. (Lect. on Psychol. Med., Univ. of Glasgow.)

1884. MacDonald, P. W., M.D., C.M.Aberd., *J.P.*, Grasmere, Radipole, Weymouth. (*First Secretary, S.W. Division*, 1894–1905.) (PRESIDENT 1907–8.)

1911. MacDonald, Ranald, *O.B.E.*, M.D., Ch.B.Edin., D.P.M., Medical Superintendent, Coton Hill Mental Hospital, Stafford.

1905. MacDonald, William Fraser, M.B., Ch.B.Edin., M.P.C., Olive Lodge, Polworth Terrace, Edinburgh.

1905. McDougall, Alan, M.D., Ch.B.Vict., M.R.C.S., L.R.C.P.Lond., Medical Director, The David Lewis Colony, Warford, Alderley Edge, Cheshire.

1906. McDowall, Colin Francis Frederick, M.D., B.S.Durh., M.R.C.S., L.R.C.P. Lond., Medical Superintendent, Ticehurst House, Ticehurst, Sussex. (*Secretary, Library Committee since* 1922.)

1870. McDowall, Thomas W., M.D., L.R.C.S.Edin., "Burwood," Wadhurst, Sussex. (PRESIDENT, 1897–8.)

1895. Macfarlane, Neil M., M.D., C.M.Aberd., Principal Medical Officer, Maseru, Basutoland, South Africa.

1924. Macfarlane, Robert Melvin, M.B., Ch.B.Edin., D.P.M., Assistant Medical Officer, West Ham Mental Hospital, Goodmayes, Essex.

1923. McGarvey, John, M.B., B.Ch.Belf., D.P.M., Medical Superintendent, Bath Mental Hospital, Wells.

1922. McGeorge, Margaret Turner, M.B., Ch.B.Glasg., Assistant Medical Officer, Camberwell House, Peckham Road, London, S.E. 5.

1925. McGlashan, William Reid, M.A., M.B., Ch.B.Aberd., D.P.M., Deputy Medical Superintendent, Derby County Mental Hospital, Mickleover.

1925. MacGowan, Agnes Mildred, M.B., Ch.B.Edin., Assistant Medical Officer and Pathologist, Bangour Village, Uphall, Linlithgowshire.

1921. McGrath, Mathew Joseph, M.B., B.Ch.R.U.I., D.P.M., Deputy Medical Superintendent, West Riding Mental Hospital; Gortmore, Bar Lane, Stanley, nr. Wakefield.

1902. McGregor, John, M.B., Ch.B.Edin., Senior Assistant Medical Officer, Glamorgan County Mental Hospital, Bridgend.

1924. McInnes, John, M.B., Ch.B.Glasg., D.P.M., Assistant Medical Officer, City Mental Hospital, Willerby, Hull.

1921. McKail, Robert Buchanan Forbes, M.B., Ch.B.Glasg., Deputy Medical Superintendent, "Calderstones" Certified Institution, Whalley, near Blackburn.

1924. Mackay, George William John, M.B., Ch.B.Edin., D.P.M., Assistant Medical Officer, St. Andrew's Hospital, Northampton.

1914. Mackay, Magnus Ross, *M.C.*, M.B., Ch.B.Edin., Newport Borough Mental Hospital, Caerleon, Mon.

1891. Mackenzie, Henry James, M.B., C.M.Edin., M.P.C., 254, Bishopsthorpe Road, York.

1927. Mackenzie, Ivy, B.Sc., M.A., M.D., F.R.F.P.S.Glasg., Consulting Physician, Glasgow District Board of Control; 10, Woodside Terrace, Glasgow, C. 3.

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1911. **Mackenzie, John Cosserat, M.B., Ch.B.Edin., Assistant Medical Officer, Stafford Mental Hospital, Burntwood, Lichfield.**

1926. Mackenzie, John Muir, M.B., Ch.B.Glasg., D.P.M., Assistant Medical Officer, Rubery Hill Mental Hospital, Northfield, Birmingham.

1927. Mackenzie, Murdo, M.R.C.S., L.R.C.P.Lond., Senior Assistant Physician, Bethlem Royal Hospital, Lambeth, London, S.E. 1.

1903. **Mackenzie, Theodore Charles, M.D., Ch.B., F.R.C.P.Edin., M.P.C., Medical Superintendent, District Asylum, Inverness.**

1921. **Mackie, George, *D.S.O.*, M.D., Ch.B.Edin., Thornyhill, Abbey Road, Great Malvern.**

1924. **McLagan, Francis M., M.B., Ch.B.St.Andr., D.P.M., Assistant Medical Officer, Cane Hill Mental Hospital, Purley, Surrey.**

1926. McLaren, Mary Evelyn, M.B., Ch.B.Edin., Dipl. Psych., Clinical Assistant, Royal Mental Hospital, Morningside, Edinburgh.

1927. Macleod, John, M.B., Ch.B.Edin., Assistant Medical Officer, Glasgow District Mental Hospital, Woodilee, Lenzie, N.B.

1921. **Macleod, Neil, M.B., Ch.B.Edin., D.P.M., Assistant Physician, The Retreat, York.**

1925. **McManus, Hugh Charles, M.B., Ch.B.Vict., D.P.M.**

1923. **MacNab, Robert Allan, M.B., Ch.B.Edin., Junior Assistant Medical Officer, Holloway Sanatorium, Virginia Water, Surrey.**

1904. **Macnamara, Eric Danvers, M.A., M.D., B.Ch.Camb., F.R.C.P.Lond., 87, Harley Street, London, W. 1. (Lect. on Psychol. Med., Charing Cross Hosp.)**

1925. MacNiven, Angus, M.B., Ch.B.Glasg., D.P.M., Assistant Physician, Royal Mental Hospital, Morningside, Edinburgh.

1910. **MacPhail, Hector Duncan, *O.B.E.*, M.A., M.D., Ch.B.Edin., Medical Superintendent, City Mental Hospital, Gosforth, Newcastle-upon-Tyne. (Lect. on Psychol. Med., Univ. of Durham.)**

1922. **Macphail, Iain Ross, L.R.C.P.&S.Edin., L.R.F.P.S.Glasg., Medical Superintendent, Kesteven Mental Hospital; Greylees, Sleaford, Lincs.**

1882. **Macphail, Samuel Rutherford, M.D., C.M.Edin., Medical Superintendent, New Saughton Hall Mental Hospital; 11, Dryden Place, Edinburgh.**

1901. **McRae, G. Douglas, M.D., C.M., F.R.C.P.Edin., *J.P.*, Medical Superintendent, Glengall Hospital; Glengall House, Ayr, N.B. (*Assistant Editor* 1916–20; *Co-Editor of the Journal since* 1920.)**

1922. McWilliam, William, M.D., Ch.B., F.R.F.P.S.Glasg., D.P.M., Senior Assistant Medical Officer, District Asylum, Inverness.

1925. Madgwick, John Reginald Alexander, M.R.C.S., L.R.C.P.Lond., D.P.M., Assistant Medical Officer, Claybury Mental Hospital, Woodford Bridge, Essex.

1923. **Madill, Joseph Thomas Herbert, B.A.N.U.I., M.B., B.Ch.Edin., F.R.F.P.S.Glasg., D.P.M., M.P.C., Deputy Medical Superintendent, Cheshire County Mental Hospital, Upton, Chester.**

1908. **Mapother, Edward, M.D., B.S.Lond., F.R.C.P.Lond., F.R.C.S.Eng., Medical Superintendent, The Maudsley Hospital, Denmark Hill, London, S.E. 5. (Lect. in Psychology, King's Coll. Hosp.)**

1903. **Marnan, John, B.A., M.B., B.Ch.Dubl., Medical Superintendent, County Mental Hospitals, Barnwood, Gloucester.**

1896. **Marr, Hamilton, M.D., C.M., F.R.F.P.S.Glasg., M.P.C., Commissioner, General Board of Control for Scotland; 10, Succoth Avenue, Edinburgh. (*Secretary, Scottish Division*, 1907–10.) (PRESIDENT, 1927–28.)**

1924. Marshall, Robert, M.D., B.Ch., F.R.C.P.Irel., D.P.H., 9, College Gardens, Belfast.

1926. Martin, Alexander Reid, M.B., B.Ch.Belf., D.P.M., Assistant Physician, Sheppard and Pratt Hospital, Towson, Baltimore, Md., U.S.A.

1922. **Martin, Frederick Robertson, M.B., Ch.B.Glasg., D.P.M., Assistant Medical Officer, Long Grove Mental Hospital, Epsom.**

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1896. Martin, James Charles, L.R.C.S.&P.Irel., *J.P.*, Medical Superintendent, District Mental Hospital, Letterkenny, Donegal.
1907. Martin, Mary Edith, L.S.A., L.R.C.P.&S.Edin., L.R.F.P.S.Glasg., M.P.C., 11, The Drive, Hove, Sussex.
1914. Martin, Samuel Edgar, M.B., B.Ch.Edin., Barrister-at-Law, Medical Superintendent, The Old Manor, Salisbury.
1911. Martin, William Lewis, *O.B.E.*, M.A., B.Sc., M.B., C.M.Edin., D.P.H., Dipl. Psych., M.P.C., Certifying Physician in Lunacy, Edinburgh Parish Council; 56, Bruntsfield Place, Edinburgh.
1921. Masefield, William Gordon, M.R.C.S., L.R.C.P.Lond., D.P.M., Medical Superintendent, Essex County Mental Hospital, Brentwood.
1911. Mathieson, James Moir, M.B., Ch.B.Aberd., Assistant Medical Officer, South Yorks Mental Hospital, Wadsley, Sheffield.
1926. May, George Francis, M.D., C.M.McGill, L.M.S.S.A., Medical Superintendent, Durham County Mental Hospital, Winterton, Ferry Hill.
1926. Menzies, Duncan, L.M.S.S.A., Assistant Medical Officer, Bath Mental Hospital, Wells.
1890. Menzies, William F., B.Sc., M.D., C.M.Edin., F.R.C.P.Lond., Medical Superintendent, Stafford County Mental Hospital, Cheddleton. (PRESIDENT, 1920–21.)
1877. Merson, John, M.A., M.D., C.M.Aberd., Willerby, Brayton Road, Selby.
1910. Middlemiss, James Ernest, M.R.C.S., L.R.C.P.Lond., F.R.F.P.S. Glasg., M.P.C., Neurologist and Specialist in Psychotherapy, Ministry of Pensions; 131, North Street, Leeds.
1925. Miller, Josephine Alcorn Carson, L.R.C.P.&S.Irel., 93, Furness Road, Willesden, London, N.W. 10.
1924. Miller, Robert Stewart, M.D., Ch.B.Glasg., Director, Khanka Mental Hospital, Cairo, Egypt.
1893. Mills, John, M.B., B.Ch.R.U.I., D.M.D., Medical Superintendent, District Mental Asylum, Ballinasloe, Ireland.
1923. Minski, Louis, M.D., B.S.Durh., D.P.M., Assistant Medical Officer, Bootham Park, York.
1922. Molony, Charles Bernard, M.B., Ch.B.N.U.I., Assistant Medical Officer, District Mental Hospital, Limerick.
1910. Monnington, Richard Caldicott, M.D., Ch.B.Edin., D.P.H., D.P.M., Neurologist, Ministry of Pensions; 33, New Street, Salisbury.
1915. Monrad-Krohn, G. H., B.A., M.D., B.S.Oslo, F.R.C.P.Lond., M.R.C.S. Eng., M.P.C., Rikshospitalet, Oslo, Norway. (Prof. of Med., Royal Frederick University, Oslo.)
1925. Moran, Patrick, M.B., B.Ch.Belf., D.P.M., Assistant Medical Officer, District Asylum, Mullingar.
1917. Morris, Bedlington Howel, M.B., B.S.Durh., Inspector-General of Hospitals, South Australia; "Tros-y-Parc," Pembroke Street, St. Peter's, Adelaide, South Australia.
1925. Morris, John Vincent, M.B., B.Ch.Dubl., Assistant Medical Officer, St. Andrew's Hospital, Thorpe, Norwich.
1896. Morton, William Britain, M.D., M.R.C.S., L.R.C.P.Lond.,
1896. Mould, Gilbert Edward, M.R.C.S., L.R.C.P.Lond., The Grange, Rotherham, Yorks.
1927. Moulson, Norman, M.B., B.S., M.R.C.S., L.R.C.P.Lond., D.P.M., Assistant Medical Officer, Lancashire County Mental Hospital, Winwick, Warrington.
1914. Moyes, John Murray, M.B., Ch.B.Edin., D.P.M., Tue Brook Villa, Liverpool, E.
1919. Mules, Annie Shortridge, M.R.C.S., L.R.C.P.Lond., Court Hall, Kenton, South Devon.
1907. Mules, Bertha Mary, M.D., B.S.Durh., Court Hall, Kenton, South Devon.
1911. Muncaster, Anna Lilian, M.B., Ch.B.Edin., Mental Hospital, Pietermaritzburg, Natal, South Africa.

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1925. Murdoch, James Wilson, M.B., Ch.B.Aberd., Superintendent, Central Mental Hospital, Tanjong Rambutan, Perak, Federated Malay States.

1903. Navarra, Norman, M.R.C.S., L.R.C.P.Lond., D.P.M., Deputy Medical Superintendent, City of London Mental Hospital, Stone, Dartford.

1910. **Neill, Alex. William, M.D., Ch.B.Edin., Physician-Superintendent,** Warneford House, Oxford.

1903. Nelis, William F., M.D.Durh., L.R.C.P.Edin., L.R.F.P.S.Glasg., Medical Superintendent, Newport Mental Hospital, Caerleon, Mon.

1920. Nicol, William Drew, M.B., B.S., M.R.C.S., L.R.C.P.Lond., D.P.M., Assistant Medical Officer, Horton Mental Hospital, Epsom.

1923. Nicole, J. Ernest, L.M.S.S.A., Senior Assistant Medical Officer, Lancashire County Mental Hospital, Winwick, Warrington.

1923. Nicoll, James, M.D., C.M.Edin., D.P.H., Medical Superintendent, Fountain Mental Hospital, Tooting Grove, London, S.W. 17.

1869. Nicolson, David, *C.B.*, M.D., C.M.Aberd., M.R.C.P.Edin., Hanley, Park Road, Camberley, Surrey. (PRESIDENT, 1895–6.)

1920. Nix, Sidney, M.D., B.S.Durh., L.R.C.P.&S.Edin., L.R.F.P.S.Glasg., Deputy Medical Superintendent, Graylingwell Mental Hospital, Chichester.

1922. Noble, Ralph Athelstane, M.B., Ch.M.Syd., D.P.M., Hon. Physician, Psychiatric Clinic, Royal Prince Alfred Hospital, Sydney, Australia; "Montrose," 175, Macquarie Street, Sydney, N.S.W., Australia.

1888. Nolan, Michael J., L.R.C.P.&S.Irel., *J.P.*, M.P.C., Medical Superintendent, Down County Mental Hospital, Downpatrick. Consulting Visitor-in-Lunacy to the Lord Chief Justice, N. Ireland, and to the Chief Justice, South Ireland. (PRESIDENT, 1924–25.)

1913. Nolan, James Noel Green, B.A., M.D., B.Ch.Dubl., Dipl. Psych., Deputy Medical Superintendent, East Sussex Mental Hospital, Hellingly.

1909. Norman, Hubert James, M.B., Ch.B.Edin., D.P.H., Medical Superintendent, Camberwell House Mental Hospital, Peckham Road, London, S.E. 5; Northcotes, 79, West Hill, Sydenham, London, S.E. 26. (Lect. on Ment. Dis., Westminster Hosp.)

1923. Noronha, Frank, M.B., C.M.Madras, D.P.M., Superintendent, The Asylum, Avenue Road, Bangalore City, India.

1926. Northcote, Muriel L. M., M.B., B.S., Assistant Medical Officer, City Mental Hospital, Whitchurch, Cardiff.

1924. Odlum, Doris Maude, M.A.Oxon., M.A.Lond., M.R.C.S., L.R.C.P.Lond., D.P.M., 42, Harley Street, London, W. 1.

1903. O'Doherty, Patrick, B.A., M.B., B.Ch.R.U.I., Resident Medical Superintendent, District Mental Hospital, Sligo.

1918. Ogilvie, William Mitchell, M.B., C.M.Aberd., Medical Superintendent, City Mental Hospital, Ipswich.

1901. Ogilvy, David, B.A., M.D., B.Ch.,Dubl. Medical Superintendent, Long Grove Mental Hospital, Epsom.

1911. Oliver, Norman Henry, M.R.C.S., L.R.C.P.Lond., Barrister-at-Law, Medical Superintendent, Ministry of Pensions Hospital; Latchmere, Ham Common, Surrey.

1922. O'Flaherty, Very Rev. Claude, M.B., Ch.B.Edin., The College, Millport, Buteshire.

1920. O'Neill, Arthur, *O.B.E.*, M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Napsbury Mental Hospital, St. Albans, Herts.

1924. O'Reilly, James Joseph, M.B., B.Ch.Belf., D.P.M., Assistant Medical Officer, Dorset County Mental Hospital, Herrison, nr. Dorchester.

1902. Orr, David, M.D., C.M.Edin., M.P.C., 88, Thirlestane Road, Edinburgh.

1910. Orr, James Henry Cubitt, M.D., Ch.B.Edin., Medical Superintendent, Midlothian and Peebles Asylum, Rosslyn Castle.

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1916. Overbeck-Wright, Alexander William, M.D., Ch.B.Aberd., D.P.H., M.P.C., Lt.-Col. *I.M.S.*, Superintendent, Asylum House, Agra, U.P., India. *Address:* c/o Messrs. King, King & Co., Bombay, India.

1905. Paine, Frederick, M.D.Brux., M.R.C.P.Lond., M.R.C.S.Eng., D.P.M., Deputy Medical Superintendent, Claybury Mental Hospital, Woodford Bridge, Essex.

1927. Pal, Sachindra Bhushan, B.A., L.M.S.Calc., Senior Assistant Physician, Central Mental Hospital, Tanjong Rambutan, Federated Malay States.

1927. Parasuram, Govindarajpuram Rampattar, B.A., L.M.S.Madras, M.R.C.P.Edin., Deputy Medical Superintendent, Government Mental Hospital, Madras.

1920. Parkin, George Gray, M.D., Ch.B.Vict., Deputy Medical Superintendent, Cheshire County Mental Hospital, Parkside, Macclesfield.

1920. Parnis, Henry William, B.Sc., M.D.Malta, M.R.C.S., L.R.C.P.Lond., D.P.M., Assistant Medical Officer, Claybury Mental Hospital, Woodford Bridge, Essex.

1916. Patch, Charles James Lodge, *M.C.*, L.R.C.P.& S.Edin., L.R.F.P.S. Glasg., Capt. *I.M.S.*, 8, Jail Road, Lahore, India.

1899. Patrick, John, M.B., Ch.B.R.U.I., Medical Superintendent, District Asylum, Omagh.

1907. Peachell, George Ernest, M.D., B.S., M.R.C.S., L.R.C.P.Lond., M.P.C., Whitechurch, Blandford.

1920. Pearn, Oscar Phillips Napier, L.S.A., M.R.C.S., L.R.C.P.Lond., D.P.M., Deputy Medical Superintendent, Cane Hill Mental Hospital, Coulsdon, Surrey.

1913. Penny, Robert Augustus Greenwood, M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, Devon County Mental Hospital, Exminster.

1920. Penson, John Frederick, M.A., M.B., B.Ch.Oxon., M.R.C.S., L.R.C.P. Lond., D.P.M., Sunnycroft, St. Peter's Road, Reading.

1927. Perera, Clement Osmund, M.R.C.S., L.R.C.P.Lond., D.P.M., Assistant Medical Superintendent, Mental Hospital, Angoda, Ceylon.

1911. Petrie, Alfred Alexander Webster, M.D., B.S., M.R.C.P.Lond., F.R.C.S. Edin., D.P.M., Medical Superintendent, Banstead Mental Hospital, Sutton, Surrey. (Lect. on Ment. Dis., West Lond. Post-Grad. College.)

1908. Phillips, John George Porter, M.D., B.S., M.R.C.S., F.R.C.P.Lond., M.P.C., Resident Physician and Superintendent, Bethlem Royal Hospital, Lambeth, London, S.E. 1. (*Secretary, Educational Committee*, 1913–20.) (Lect. on Ment. Dis., Bart.'s Hosp. and Lond. Sch. of Med. for Women.)

1910. Phillips, John Robert Parry, *O.B.E.*, M.R.C.S., L.R.C.P.Lond., Kingsdown House, Box, Wilts.

1906. Phillips, Nathaniel Richard, M.D.Brux., M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Monmouth County Mental Hospital, Abergavenny.

1905. Phillips, Norman Routh, M.D.Brux., M.R.C.S., L.R.C.P.Lond., D.P.M., Senior Assistant Medical Officer, St. Andrew's Hospital, Northampton.

1921. Phillips, Philip Gordon, L.R.C.P.&S.Edin., L.R.F.P.S.Glasg., The Croft, Collingham, Leeds.

1924. Pickworth, Frederick Alfred, B.Sc., M.B., B.S., M.R.C.S., L.R.C.P.Lond., A.I.C.(exam.), Ph.C., Pathologist, Joint Board of Research for Mental Diseases, City and University of Birmingham; Hollymoor Mental Hospital, Northfield, Birmingham.

1891. Pierce, Bedford, M.D., F.R.C.P.Lond., "Rosewood," Middlecave Road, Malton, Yorks. (*Secretary, N. and M. Division*, 1900–8.) (PRESIDENT, 1919–20.)

1888. Pietersen, James F. G., M.R.C.S., L.R.C.P.Lond., Ashwood House, Kingswinford, near Dudley, Stafford.

1896. Planck, Charles, M.A.Camb., M.R.C.S., L.R.C.P.Lond., "Pontresina," Perrymount Road, Haywards Heath, Sussex.

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1912. Plummer, Edgar Curnow, M.R.C.S., L.R.C.P.Lond., 113, Park Road, Hanover Gate, London, N.W. 8.

1889. **Pope, George Stevens, L.R.C.P.&S.Edin., L.R.F.P.S.Glasg., Medical Superintendent, Heigham Hall, Norwich.**

1927. Porteous, Harold Burnet, M.B., Ch.B.Edin., D.P.H., D.P.M., Wing-Cdr. *R.A.F.*; Combined R.A.F. Hospital, Basra, Irac.

1913. **Potts, William A., M.A.Camb., M.D.Edin.& Birm., M.R.C.S., L.R.C.P.** Lond., Medical Officer, Birmingham Committee for the Care of the Feeble-Minded; 118, Hagley Road, Egbaston, Birmingham.

1923. Power, Thomas Declan, B.A., M.D., B.Ch.Dubl., M.R.C.P.Lond., D.P.H., D.P.M., Assistant Medical Officer, Essex County Mental Hospital, Brentwood.

1921. Poynder, Ernest George Thornton, M.R.C.S., L.R.C.P.Lond., D.P.M., Assistant Medical Officer, Long Grove Mental Hospital, Epsom.

1908. Prentice, Reginald Wickham, L.M.S.S.A., Bridge House, Ringwood.

1918. Prideaux, Joseph Francis Engledue, M.R.C.S., L.R.C.P.Lond., D.C.M.S.; Ministry of Pensions, 1, Sanctuary Buildings, Great Smith Street, London, S.W. 1.

1894. Rambaut, Daniel F., M.A., M.D., B.Ch.Dubl., Medical Superintendent, St. Andrew's Hospital; Priory Cottage, Northampton. (*Registrar since* 1924.)

1926. Ramsay, Johnston Campbell, M.B., B.Ch.Belf., Assistant Medical Officer, Claybury Mental Hospital, Woodford Bridge, Essex.

1889. Raw, Nathan, *C.M.G.*, M.D., B.S., M.R.C.P.Lond., F.R.C.S., F.R.S. Edin., L.S.Sc.Durh., M.P.C., Lord Chancellor's Visitor; The Green, Richmond, Surrey. (*Chairman, Parliamentary Committee since* 1926.)

1913. Read, Charles Stanford, M.D., M.R.C.S., L.R.C.P.Lond., 22, Park Crescent, London, W. 1. (Lect. on Psychol. Med., Bethlem Royal Hospital.)

1920. **Read, Walter Wolfe, M.D.Brux., M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Berks County Mental Hospital, Moulsford, Wallingford.**

1899. **Redington, John Murray, L.R.C.P., F.R.C.S.Irel.,** Revagh, Salthill, Galway.

1927. Rees, Rufus Price, M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, West Park Mental Hospital, Epsom.

1927. Rees, Thomas Percy, B.Sc., M.B., B.Ch.Wales, M.R.C.P.Lond., M.R.C.S. Eng., D.P.M., Senior Assistant Medical Officer, Croydon Mental Hospital, Upper Warlingham, Surrey.

1911. **Reeve, Ernest Frederick, M.B., B.S., M.R.C.S., L.R.C.P.Lond.,** Medical Superintendent, Lancashire County Mental Hospital, Rainhill, nr. Liverpool. (Lect. on Ment. Dis., Univ. of Liverp.)

1911. **Reid, Daniel McKinley, M.D., Ch.B., F.R.F.P.S.Glasg., Medical Superintendent, City Mental Hospital, Exeter.**

1924. Reid, James, L.R.C.P.&S.Edin., L.R.F.P.S.Glasg., Assistant Medical Officer, City Mental Hospital, Fishponds, Bristol.

1910. **Reid, William, M.A.St.And., M.B.,** Ch.B.Edin., Medical Superintendent, Stafford Mental Hospital, Burntwood, Lichfield.

1923. **Retallack-Moloney, Herbert Thomas,** M.R.C.S., L.R.C.P.Lond., D.P.M., Assistant Medical Officer, Claybury Mental Hospital, Woodford Bridge, Essex.

1925. Reynolds, Francis Esmond, M.B., Ch.B.Edin., D.T.M., Pathologist, Scottish Asylums Pathological Scheme, Royal Infirmary, Edinburgh. (Lect. on Neuro-Path., Univ. of Edinburgh.)

1899. Rice, David, M.D.Brux., M.R.C.S., L.R.C.P.Lond., D.P.H., Medical Superintendent, City Mental Hospital, Hillesdon, Norwich.

1897. **Richard, William John, M.A., M.B., C.M., F.R.F.P.S.Glasg., Merryflats** House, Govan, Glasgow. (Medical Superintendent, South General Hospital.)

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1899. **Richards, John, M.B., C.M., F.R.C.S.Edin., Medical Superintendent,** Joint Counties Mental Hospital, Carmarthen.

1922. **Riches, Reginald George, M.R.C.S., L.R.C.P.Lond., D.P.M., Deputy** Medical Superintendent, Hanwell Mental Hospital, Southall, Middlesex.

1920. **Rickman, John, M.A., M.D., B.Ch.Camb., Chief Assistant, Mental** Out-Patients, St. Thomas's Hospital; 37, Devonshire Place, London, W. 1.

1911. **Robarts, Henry Howard, M.D., Ch.B.Edin., D.P.H., Medical Officer,** East Lothian Mental Hospital, Ennerdale, Haddington, N.B.

1922. **Robb, John Robert Beith, L.R.C.P.&S.Edin., L.R.F.P.S.Glasg., Assis**tant Physician, Glasgow District Mental Hospital, Gartloch, Gartcosh, N.B.

1921. Roberts, Edward Douglas Thomas, M.R.C.S., L.R.C.P.Lond., D.P.M., Assistant Medical Officer, Herts County Mental Hospital, Hill End, St. Albans.

1903. **Roberts, Norcliffe, *O.B.E.*, M.D., B.S.Durh., D.P.M., Medical Super**intendent, West Park Mental Hospital, Epsom.

1927. Robertson, David, M.D., Ch.B.Glasg., Junior Assistant Physician, Bethlem Royal Hospital, Lambeth, London, S.E. 1.

1908. **Robertson, George Dunlop, L.R.C.S.&P.Edin., L.R.F.P.S.Glasg., Dipl.** Psych., Senior Assistant Physician, Lanark District Mental Hospital, Hartwood, N.B.

1920. Robinson, William, M.D., Ch.B.Leeds, D.P.M., Medical Superintendent, City of London Mental Hospital, Stone, Dartford.

1922. Rodger, Kenneth Mann, M.B., Ch.B.Glasg., D.P.M., Deputy Medical Superintendent, Salop County Mental Hospital, Bicton Heath.

1914. Rodger, Murdoch Mann, M.D., Ch.B.Glasg., Dechmont, Helouan, Egypt.

1908. **Rodgers, Frederick Millar, *O.B.E.*, M.D., Ch.B.Vict., D.P.H., Medical** Superintendent, Lancashire County Mental Hospital, Winwick, Warrington.

1895. **Rolleston, Lancelot William, *C.B.E.*, M.B., B.S.Durh., M.R.C.S., L.R.C.P.** Lond., Queen Anne's Mansions, St. James's Park, London, S.W. 1.

1922. Rollins, Ernest Edward, B.A., M.B., B.Ch.Dubl., Resident Medical Officer, Brooke House, Upper Clapton, London, E. 5.

1924. Rose, Edward Snow, M.R.C.S. L.R.C.P.Lond., D.P.M., Lansdowne House, Romsey, Hants.

1888. **Ross, Chisholm, M.D.Syd., M.B., C.M.Edin., 225, Macquarie Street,** Sydney, New South Wales.

1910. Ross, Donald, M.B., Ch.B.Edin., M.P.C., *J.P.*, Medical Superintendent, Argyll and Bute Asylum; Tigh-na-Linne, Lochgilphead, Argyll. (*Vice-Chairman, Educational Committee since* 1927.)

1923. **Ross, Thomas Arthur, M.D., C.M., F.R.C.P.Edin., Medical Director,** Cassel Hospital, Swaylands, Penshurst, Kent.

1899. Rotherham, Arthur, M.A., M.B., B.Ch.Camb., Commissioner, Board of Control, Caxton House West, Westminster, S.W. 1; Elm House, Marshall Road, Farncombe, Surrey.

1922. **Roy, John Allen Chisholm, M.B., Ch.B.Vict., Medical Superintendent,** Manchester Royal Hospital, Cheadle, Cheshire.

1924. **Rudolf, Gerald de Montjoie, M.R.C.S., L.R.C.P.Lond., D.P.H., D.P.M.,** Assistant Medical Officer, Claybury Mental Hospital, Woodford Bridge, Essex.

1926. Russell, Elizabeth Dill, M.R.C.S., L.R.C.P.Lond., D.P.H., Assistant Physician, West Koppies Mental Hospital, Pretoria, South Africa.

1923. Russell, John, M.B., Ch.B.Glasg., D.P.M., Assistant Medical Officer West Riding Mental Hospital, Menston, Leeds.

1912. **Russell, John Ivison, M.B., Ch.B., F.R.F.P.S.Glasg., D.P.M., M.P.C.,** Medical Superintendent, North Riding Mental Hospital, Clifton, York.

1915. **Russell, William, *M.C.*, M.D., Ch.B.Edin., Dip.Psych., D.T.M., Physician** Superintendent, Witrand Institution, Potchefstroom, South Africa.

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1912. Rutherford, Cecil, B.A., M.B., B.Ch.Dubl., Assistant Medical Officer, Holloway Sanatorium, Virginia Water, Surrey.
1907. Rutherford, Henry Richard Charles, L.R.C.P., F.R.C.S.Irel., D.P.H., Medical Superintendent, Farnham House, Finglas, co. Dublin.
1896. Rutherford, James Mair, M.B., C.M., F.R.C.P.Edin., M.P.C., Brislington House, Bristol.
1922. Ruthven, Morton Wood, M.B., Ch.B.Edin., D.T.M., Assistant Medical Officer, Banstead Mental Hospital, Sutton, Surrey.

1902. Sall, Ernest Frederick, M.R.C.S., L.R.C.P.Lond., Medical Superintendent, City Mental Hospital, Canterbury.
1908. Samuels, William Frederick, L.M., L.Ch.Dubl., Medical Superintendent, Central Mental Hospital; St. Dymphna's, Tanjong Rambutan, Perak, Federated Malay States.
1923. Sang, Janet Adeline Agnes, L.R.C.P.&S.Edin., L.R.F.P.S.Glasg., Assistant Medical Officer, Lancashire County Mental Hospital, Prestwich, Manchester.
1894. Sankey, Edward Hugh Octavius, M.A., M.B., B.Ch.Camb., Resident Medical Licensee, Boreatton Park, Baschurch, Salop.
1906. Scanlan, John James, L.R.C.P.&S.Edin., L.R.F.P.S.Glasg., D.P.H., c/o Glyn Mills & Co., 3, Whitehall Place, London, S.W. 1.
1926. Scoresby-Jackson, Margaret, M.D., B.S.Durh., Clinical Assistant, Neurological Department, Guy's Hospital; 28, Weymouth Street, Portland Place, London, W. 1.
1925. Scott, Francis Leonard, M.R.C.S., L.R.C.P.Lond., D.P.M., Assistant Medical Officer, London County Mental Hospital, Bexley, Kent.
1911. Scroope, Gervace Wm. Mavy, M.B., B.Ch.Dubl., Assistant Medical Officer, Central Criminal Asylum, Dundrum, co. Dublin.
1880. Seccombe, George Samuel, M.R.C.S., L.R.C.P.Lond., c/o Lloyds Bank, Threadneedle Street, London, E.C. 3.
1925. Selkirk, Elizabeth Thompson, M.B., Ch.B.Edin., Deputy Medical Superintendent, Hollymoor Mental Hospital, Northfield, Birmingham.
1912. Sergeant, John Noel, M.B., B.S., M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Newlands House, Tooting Bec Common, London, S.W. 17. (*Secretary, South-Eastern Division since* 1913.)
1925. Shand, George Ernest, M.D., Ch.B.Aberd., D.P.H., Deputy Medical Superintendent, Winson Green Mental Hospital, Birmingham; 307, Gillott Road, Edgbaston, Birmingham.
1901. Shaw, Benjamin Henry, M.D., B.Ch.R.U.I., Medical Superintendent, County Mental Hospital, Stafford. (*Secretary, Research and Clinical Committee since* 1927.)
1905. Shaw, Charles John, M.D., Ch.B., F.R.C.P.Edin., *J.P.*, Medical Superintendent, Royal Asylum, Montrose.
1904. Shaw, Patrick, L.R.C.P.&S.Edin., L.R.F.P.S.Glasg., Medical Superintendent, Hospital for Insane, Ballarat, Victoria, Australia.
1909. Shaw, William Samuel Jagoe, M.D.Belf., M.B., B.Ch. R.U.I., Lt.-Col. *I.M.S.*, Superintendent, Central Hospital for Mental Diseases, Yeravda, Poona; c/o Messrs. Grindlay & Co., 54, Parliament Street, S.W. 1.
1920. Shearer, Christina Hamilton, M.B., Ch.B.Glasg., Senior Medical Officer, Cassel's Hospital, Swaylands, Penshurst, Kent.
1923. Shepherd, Charles Ernest Alan, M.R.C.S., L.R.C.P.Lond., D.P.M., Senior Assistant Medical Officer, Hants County Mental Hospital, Knowle, Fareham.
1927 Shera, Arthur Geoffrey, M.A., M.D., M.R.C.S., L.R.C.P.Lond., 10, Upperton Gardens, Eastbourne. (Pathologist to Princess Alice Hospital, Eastbourne.)
1927. Sheridan, Alfred, L.R.C.P.&S.Irel., Resident Medical Superintendent, Mayo County Mental Hospital, Castlebar, Ireland.
1914. Sherlock, Edward Birchall, B.Sc., M.D.Lond., D.P.H., Barrister-at-Law, Medical Superintendent, Darenth Industrial Colony, Dartford.

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1914. Shield, Hubert, *M.C.*, M.B., B.S.Durh., Assistant Medical Officer, Gateshead Mental Hospital; 73, Holly Avenue, Jesmond, Newcastle-on-Tyne.

1923. Shore, G. W., M.D.Lond., D.P.H., D.P.M., Assistant Medical Officer, Springfield Mental Hospital, nr. Tooting, London, S.W. 17.

1922. Shortt, Jane Elder, M.B., Ch.B.Glasg.

1877. Shuttleworth, George E., B.A.Lond., M.D.Heidelb., L.S.A., M.R.C.S. Eng., 36, Lambolle Road, Hampstead, London, N.W. 3.

1891. Skeen, James Humphry, M.B., C.M.Aberd., M.P.C., Medical Superintendent, New Saughton Hall, Polton, Midlothian.

1921. Skene, Leslie Henderson, *M.C.*, M.B., Ch.B.Edin., Dipl.Psych., Medical Superintendent, Mental Hospital, Union Mills, Isle of Man.

1925. Skottowe, James Stewart Ian, M.B., Ch.B.Glasg., D.P.M., Senior Assistant Medical Officer, City Mental Hospital, Whitchurch, Cardiff.

1914. Slaney, Chas. Newnham, M.R.C.S., L.R.C.P.Lond., 21, Walton Park, Liverpool.

1901. Slater, George Nathan Oscroft, M.D., M.R.C.S., L.R.C.P.Lond., D.P.M., Senior Assistant Medical Officer, Essex County Mental Hospital, Brentwood.

1910. Smith, Gayton Warwick, M.D.Lond., B.S.Durh., M.R.C.S., L.R.C.P. Lond., D.P.H., Senior Assistant Medical Officer, Springfield Mental Hospital, nr. Tooting, London, S.W. 17.

1905. Smith, George William, *O.B.E.*, M.B., Ch.B.Edin., Wyke House, Isleworth, Middlesex.

1926. Smith, Gordon John, M.B., Ch.B.Aberd., Assistant Physician, Royal Mental Hospital, Morningside, Edinburgh.

1923. Smith, Herbert, M.R.C.S., L.R.C.P.Lond., Deputy Medical Superintendent, Bristol Mental Hospital, Fishponds.

1899. Smith, John Grimmond, M.D., C.M.Edin., Medical Superintendent, Hereford County Mental Hospital, Burghill.

1920. Smith, Maurice Hamblin, M.A.Camb., M.D.Durh., M.R.C.S., L.R.C.P. Lond., Medical Officer, H.M. Prison, Birmingham. (Lect. on Criminology, Univ. of Birmingham.)

1913. Smith, Thomas Cyril, M.B., Ch.B.Edin., Assistant Medical Officer, 2nd County Mental Hospital, Barnwood, Gloucester.

1911. Smith, Thomas Waddelow, L.S.A., L.R.C.P.Lond., F.R.C.S.Eng., M.P.C., "Robinwood," Wells Road, Mapperley, Nottingham.

1920. Smyth, Geoffrey Norman, L.R.C.P.&S.Irel., 189, Richmond Road, Cardiff.

1921. Smyth, John Francis, M.B., B.Ch.N.U.I., D.P.M., Assistant Medical Officer, West Riding Mental Hospital, Wakefield.

1899. Smyth, Walter Samuel, M.B., B.Ch.R.U.I., Assistant Medical Superintendent, District Asylum, Antrim.

1926. Snell, Harvie Kennard M.B., B.S., M.R.C.S., L.R.C.P.Lond., D.P.H., Medical Officer, Broadmoor Criminal Lunatic Asylum, Crowthorne, Berks.

1923. Somerville, George, M.D., Ch.B.Edin., D.P.M., Assistant Medical Officer, West Ham Mental Hospital, Goodmayes, Ilford.

1913. Somerville, Henry, B.Sc., M.R.C.S., L.R.C.P.Lond., F.C.S., Harrold, Bedford.

1885. Soutar, James Greig, M.B., C.M.Edin., M.P.C., 20, Royal Parade, Cheltenham. (PRESIDENT, 1912–13.)

1906. Spark, Percy Charles, M.R.C.S., L.R.C.P.Lond., 3, Clapham Mansions, Nightingale Lane, London, S.W. 4.

1925. Speer, James Millar Craig, M.B., B.Ch.Belf., Assistant Medical Officer, Wilts County Mental Hospital, Devizes.

1875. Spence, J. Beveridge, *O.B.E.*, M.D., M.Ch.Q.U.I., L.A.H.Dubl., 1, St. Matthew's Road, St. Leonards-on-Sea. (*First Registrar*, 1892–1899; *Chairman, Parliamentary Committee*, 1910–12.) (PRESIDENT, 1899–1900.)

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1922 Spence, Thomas Reginald Carwardine, *M.C.*, M.B., Ch.B.Edin., Deputy Medical Superintendent, Kesteven Mental Hospital, Sleaford.

1891. Stansfield, Thomas Edward Knowles, *C.B.E.*, M.B., C.M.Edin., Southmead, Wimbledon Park, London, S.W. 19.

1901. Starkey, William, M.B., B.Ch.R.U.I., Medical Superintendent, Plymouth Mental Hospital, Blackadon, Ivybridge. (*Secretary, South-Western Division, since* 1922.)

1927. Steel, John P., M.D., Ch.B.Edin., Deputy Medical Superintendent, St. Luke's Hospital, Middlesbrough.

1925. Steel, Samuel Maxwell, M.B., Ch.B.Glasg., Assistant Medical Superintendent, Monyhull Colony, Kings Heath, Birmingham.

1907. Steele, Patrick, M.D., Ch.B., F.R.C.P.Edin., Medical Superintendent Roxburgh District Asylum; The Hermitage, Melrose.

1914. Stephens, Harold Freize, M.R.C.S., L.R.C.P.Lond., Deputy Medical Superintendent, The Manor Certified Institution, Epsom.

1909. Steward, Sidney John, *D.S.O.*, M.D., B.Ch.Camb., M.R.C.S., L.R.C.P. Lond., D.P.H., Langton Lodge, Farncombe, Surrey.

1922. Stewart, Francis Hugh, M.A., D.Sc.St.And., M.D., Ch.B.Edin., D.P.M., Assistant Medical Officer, Staffordshire County Mental Hospital, Cheddleton.

1927. Stewart, Francis Melville, M.B., Ch.B.Edin., Second Assistant Medical Officer, County and City Mental Hospital, Littlemore, Oxford.

1887. Stewart, Rothsay Charles, L.S.A., M.R.C.S.Eng., Medical Superintendent, Leicester and Rutland County Mental Hospital, Narborough.

1914. Stewart, Roy MacKenzie, M.D., Ch.B., M.R.C.P.Edin., D.P.M., Medical Superintendent, Leavesden Mental Hospital; Woodside, Leavesden, Watford.

1905. Stilwell, Henry Francis, L.R.C.P.&S.Edin., L.R.F.P.S.Glasg., Hayes Park, Hayes, Middlesex.

1899. Stilwell, Reginald John, M.R.C.S., L.R.C.P.Lond., Moorcroft House, Hillingdon, Middlesex.

1897. Stoddart, William Henry Butter, M.D., B.S., F.R.C.P.Lond., M.R.C.S. Eng., M.P.C., Harcourt House, Cavendish Square, London, W. 1. (*Secretary, Educational Committee*, 1908–1912.) (Lect. on Ment. Dis., St. Thomas's Hosp.)

1909. Stokes, Frederick Ernest, M.D., Ch.B.Glasg., D.P.H., Senior Assistant Medical Officer, City Mental Hospital, Milton, Portsmouth.

1903. Stratton, Percy Haughton, M.R.C.S., L.R.C.P.Lond., York Lodge, Cliff Cottage Road, Bournemouth.

1885. Street, Charles Tidbury, M.R.C.S., L.R.C.P.Lond., Moulton Hall, Middleton Tyas, Yorks.

1909. Stuart, Frederick Joshua, *O.B.E.*, M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Northampton County Mental Hospital, Berrywood.

1927. Stungo, Ellis, L.R.C.P.&S.Edin., L.R.F.P.S.Glasg. 10, Marshalsea Road, Southwark, London, S.E. 1.

1924. Sturrock, Alexander Corsar, M.A., M.D., C.M.Edin., M.R.C.P.Lond., Preston House, Eccles, Manchester. (Physician, Salford Royal Hospital.)

1900. Sturrock, James Prain, M.A.St.And., M.D., C.M.Edin., Commissioner, General Board of Control for Scotland; 36, Murrayfield Road, Edinburgh.

1886. Suffern, Alex. Canning, *O.B.E.*, M.D., M.Ch.R.U.I., Glen-y-Mor, Hill Head, Fareham.

1921. Suffern, Canning, M.A., M.B., B.Ch.Camb., M.R.C.S., L.R.C.P.Lond., Glen-y-Mor, Hill Head, Fareham.

1922. Sullivan, Patrick Daniel, L.R.C.P., F.R.C.S.Irel., Medical Superintendent, Verville Asylum, Clontarf, co. Dublin; 44, Harrington Street, Dublin.

1918. Sutherland, Francis, M.B., Ch.B.Edin., D.P.H., Portree, Isle of Skye.

1919. Suttie, Ian D., M.B., Ch.B., F.R.F.P.S.Glasg., Medical Superintendent, Kenlaw House, Colinsburgh, Fife.

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1908. Swift, Eric W. D., M.B.Lond., Physician, Valkenberg Mental Hospital, Observataens, Cape Town, South Africa.

1926. Talbot, Geoffrey, B.Sc., M.B., Ch.B.Manch., Assistant Medical Officer, Lancashire County Mental Hospital, Prestwich, Manchester.

1923. Tattersall, Stanley Roy, M.R.C.S., L.R.C.P.Lond., Pathologist, Lancashire County Mental Hospital, Lancaster.

1910. Taylor, Arthur Loudoun, B.Sc., M.B., Ch.B., F.R.C.P.Edin., Senior Assistant Medical Officer, Stafford County Mental Hospital, Burntwood, Lichfield.

1924. Taylor, Frederic Cecil Marsh, M.R.C.S., L.R.C.P.Lond., D.P.M., Assistant Medical Officer, Kent County Mental Hospital, Chartham Downs.

1897. Taylor, Frederic Ryott Percival, M.D., B.S., M.R.C.S., L.R.C.P.Lond., Medical Superintendent, East Sussex County Mental Hospital, Hellingly. (*Chairman, Educational Committee since* 1927.)

1925. Taylor, Robert, L.R.C.P.&S.Irel., Assistant Medical Officer, St. Patrick's Hospital, Dublin.

1926. Tennant, Thomas, M.B., Ch.B.Glasg., D.P.H., D.P.M., Assistant Medical Officer, Maudsley Hospital, Denmark Hill, London, S.E. 5.

1921. Thomas, Cyril James, M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, Lancashire County Mental Hospital, Lancaster.

1920. Thomas, Frederic Percival Selwyn, M.D., Ch.B.Vict., The Oaks, Porthill, Staffordshire.

1908. Thomas, Joseph David, B.A., M.B., B.C.Camb., Northwoods House, Winterbourne, Bristol.

1911. Thomas, William Rees, M.D., B.S., M.R.C.S., M.R.C.P.Lond., D.P.M., M.P.C., Medical Superintendent, Rampton State Institution, near Retford, Notts; Gray Ridges, Woodbeck, Retford, Notts.

1921. Thompson, James Arthur, B.A., M.B., B.Ch.Dubl., Surgeon-Cdr. R.N., Royal Naval Hospital, Haslar.

1925. Thompson, Robert, M.B., B.Ch.Belf., D.P.M., St. Patrick's Hospital, Dublin.

1921. Thomson, Aidan Gordon Wemyss, M.B., Ch.B.Glasg., Assistant Physician, Glasgow Royal Mental Hospital, Gartnavel.

1920. Thomson, William George, M.A., M.B., Ch.B.Aberd., D.P.H., D.P.M., Deputy Medical Superintendent, Manchester Royal Hospital, Cheadle, Cheshire.

1927. Thorpe, Frederick Thomas, M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer and Pathologist, South Yorkshire Mental Hospital, Wadsley, Sheffield.

1901. Tighe, John Valerian George Brosnan, M.B., B.Ch.R.U.I., Medical Superintendent, Gateshead Mental Hospital, Stannington, Northumberland. (*Secretary, N. and M. Division since* 1927.)

1914. Tisdall, Charles Jerome, M.B., Ch.B.Edin., Shaftesbury House, Formby, Liverpool.

1903. Topham, J. Arthur, B.A.Camb., M.R.C.S., L.R.C.P.Lond., Senior Assistant Medical Officer, Kent County Mental Hospital, Chartham Downs.

1896. Townsend, Arthur Allen Deykin, M.D., B.Ch.Birm., M.R.C.S., L.R.C.P. Lond., Medical Superintendent, Barnwood House, Gloucester.

1903. Tredgold, Alfred Frank, M.D.Durh., M.R.C.S., M.R.C.P.Lond., F.R.S. Edin., " St. Martin's," Guildford.

1908. Tuach-MacKenzie, William, M.D., Ch.B.Aberd., Physician Superintendent, Royal and District Asylums, Dundee; Westgreen, Dundee. (Lect. on Ment. Dis., Univ. of St. Andrews.)

1906. Turnbull, Peter Mortimer, *M.C.*, M.B., B.Ch.Aberd., D.P.M., Senior Assistant Medical Officer, Mental Hospital, Caterham.

1909. Turnbull, Robert Cyril, M.D., M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Essex County Mental Hospital, Severalls, Colchester.

1889. Turner, Alfred, M.D., C.M.Edin., Medical Superintendent, Plympton House, Plympton, South Devon.

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1906. **Turner, Frank Douglas, M.B., M.R.C.S., L.R.C.P.Lond.,** Medical Superintendent, Royal Eastern Counties Institution, Colchester.

1922. **Twomey, John Christopher, M.B., Ch.B.Liverp., D.P.H.,** Assistant Physician, The Mental Hospital, Queenstown, Cape Province, South Africa; c/o Secretary for Interior, Pretoria.

1917. **Vevers, Oswald Henry, M.R.C.S., L.R.C.P.Lond.,** Villa Beaugeard, Arcachon, Gironde, France.

1922. **Viehoff, Herman Crowther, M.R.C.S., L.R.C.P.Lond.,** 48, Moor Lane, Great Crosby, Lancs.

1894. **Vincent, William James N., *C.B.E.*, M.B., B.S.Durh., M.R.C.S.,** L.R.C.P.Lond., Medical Superintendent, South Yorkshire Mental Hospital, Wadsley, Sheffield. (Lect. on Ment. Dis., Univ. of Sheffield.)

1923. **Wadsworth, George Reginald, M.B., B.Ch.Belf., Assistant Medical** Officer, Lancashire County Mental Hospital, Lancaster.

1926. **Walk, Alexander, M.D., B.S.Lond., D.P.M.,** Assistant Medical Officer, Horton Mental Hospital, Epsom.

1914. **Walker, Robert Clive, M.D., Ch.B.Edin.,** Deputy Medical Superintendent, West Riding Mental Hospital, Menston, Leeds.

1908. **Wallace, John Andrew Leslie, M.D., Ch.B.Edin., M.P.C., *J.P.*,** Mental Hospital, Callan Park, Sydney, New South Wales.

1912. **Wallace, Vivian, L.R.C.P.&S.Irel., D.P.H., Ballinakill, Multyfarnham, co. Westmeath.**

1926. Wallis, Robert Lauder Mackenzie, M.A., M.D.Camb., 101, Harley Street, London, W. 1.

1889. **Warnock, John, *C.M.G.*,** B.Sc., M.D., C.M.Edin., M.R.C.S.Eng., The Limes, 181, London Road, Twickenham.

1927. Waterhouse, Amyas Theodore, M.A., M.D., B.Ch.Oxon., M.R.C.S., L.R.C.P.Lond., Hon. Physician, Neurological Department, Radcliffe Infirmary; 35, Beaumont Street, Oxford.

1895. **Waterston, Jane Elizabeth, M.D.Brux., F.R.C.P.Irel., L.R.C.S.Edin., M.P.C.,** Govt. Official Visitor, Valkenberg Mental Hospital, Cape Town; 85, Parliament Street, Cape Town, South Africa.

1922. **Watson, Douglas Chalmers, M.D., F.R.C.P.Edin.,** 28, Melville Street, Edinburgh. (Physician, Royal Infirmary, Edinburgh.)

1891. **Watson, George Alfred, M.B., C.M.Edin., M.P.C., Pathologist to the** Lancashire County Mental Hospitals; Rainhill Cottage, Rainhill, Nr. Liverpool. (Lect. on Neuro-Path. of Ment. Dis., Univ. of Liverpool.)

1908. **Watson, Hugh Ferguson, M.D., Ch.B.Glasg., L.R.C.P.&S.Edin.,** L.R.F.P.S.Glasg., D.P.H., F.R.S.Edin., Deputy Commissioner, General Board of Control for Scotland; Northcote, Edinburgh Road, Perth.

1924. **Watson, John, *M.C.*, M.B., B.Ch.Edin., Resident Medical Superintendent,** District Asylum, Londonderry.

1911. **Webber, Leonard Mortis, M.R.C.S., L.R.C.P.Lond., Senior Assistant** Medical Officer, Surrey County Mental Hospital, Netherne, Coulsdon.

1922 **Webster, William Leckie, M.B., Ch.B.Edin., Major *R.A.M.C.*, "D"** Block, Royal Victoria Hospital, Netley, Hants.

1919. **Westrup, Joseph Perceval, M.R.C.S., L.R.C.P.Lond.,** Medical Officer, The Old Manor, Salisbury.

1911. **White, Edward Barton Cartwright, M.R.C.S., L.R.C.P.Lond.,** Medical Superintendent, City Mental Hospital, Fishponds, Bristol. (Lect. on Ment. Dis., Univ. of Bristol.)

1884. **White, Ernest William, *C.B.E.* M.B., L.S.A., M.R.C.P.Lond., M.R.C.S.** Eng., Betley House, near Shrewsbury. (*Secretary, S.E. Division*, 1897–1900.) (*Chairman, Parliamentary Committee*, 1904–7.) (PRESIDENT 1903–4.)

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1927. White, Marion, M.B., B.Ch.Belf., D.P.M., Assistant Medical Officer, Portrane Mental Hospital, Donabate, co. Dublin.

1921. **Whitelaw, William, M.B., B.Ch.Glasg., Director, Western Asylums Research Institute; 3, Talbot Terrace, Scotstounhill, Renfrewshire**

1905. **Whittington, Richard, M.A., M.D.Oxon., M.R.C.S., L.R.C.P.Lond., 1, Eaton Gardens, Hove, Sussex.**

1889. **Whitwell, James Richard, M.B., C.M.Edin., 66, York Mansions, Battersea Park, S.W. 11.** (*Acting Hon. Librarian and Chairman, Library Committee since* 1927.)

1913. **Wilkins, William Douglas, M.B., Ch.B.Vict., M.R.C.S., L.R.C.P.Lond., D.P.M., Senior Assistant Medical Officer, Stafford County Mental Hospital, Cheddleton.**

1900. **Wilkinson, Harry Bacon, M.R.C.S., L.R.C.P.Lond., Deputy Medical Superintendent, Plymouth Mental Hospital, Blackadon, Ivybridge, South Devon.**

1925. **Williams, Edward Lincoln, M.R.C.S., L.R.C.P.Lond., The Hall, Harrow Weald, Middlesex.**

1925. Williams, Rhodri Gwyn, M.R.C.S., L.R.C.P.Lond., Claremont Mental Hospital, Perth, Western Australia.

1922. **Williamson, David Hardie, M.B., Ch.B.Edin., Assistant Medical Officer, Glasgow District Mental Hospital, Woodilee, Lenzie, N.B.**

1916. **Williamson, Marguerite, M.B., Ch.B.Glasg., D.P.M., The Ochil Hills Sanatorium, Milnathort, Kinross-shire.**

1923. **Wilson, Alban, M.R.C.S., L.R.C.P.Lond., D.P.M., Deputy Medical Superintendent, Hants County Mental Hospital, Knowle, Fareham.**

1927. Wilson, Charles Herbert, M.B., B.Ch.Dubl., Assistant Medical Officer, St. Patrick's Hospital, Dublin.

1925. Wilson, Harriette Appleby, M.B., Ch.B.Leeds, D.P.M., Senior Assistant Medical Officer, West Riding Mental Hospital, Wakefield.

1923. Wilson, Isabel Grace Hood, M.B., Ch.B.Edin., D.P.M., Clinical Assistant, Bethlem Royal Hospital; 42, Harley Street, London, W. 1.

1920. Wilson, James Leitch, M.B., Ch.B.Edin., D.P.M., 81, Harley Street, London, W. 1.

1899. Wolseley-Lewis, Herbert, M.D.Brux., L.R.C.P.Lond., F.R.C.S.Eng., Medical Superintendent, Kent County Mental Hospital, Barming Heath, Maidstone. (*Secretary, Parliamentary Committee,* 1907–12; *Chairman,* 1912–21.)

1921. **Wood, Bertram William Francis, M.B., B.S.Leeds, West African Medical Staff; c/o P.O., Lagos, South Province, Nigeria.**

1869. Wood, T. Outterson, M.D.Durh., M.R.C.P.Lond., F.R.C.P., F.R.C.S Edin., "Lodore," Chelston Road, Torquay. (PRESIDENT, 1905–6.)

1912. Woods, James Cowan, B.A.R.U.I., M.D., B.S., M.R.C.S., L.R.C.P.Lond., 45, Weymouth Street, W. 1. (Lect. on Ment. Dis., St. George's and London Hosps.)

1885. **Woods, John Francis, M.D.Durh., L.S.A., M.R.C.S.Eng., 7, Harley Street, Cavendish Square, London, W. 1.**

1912. Wootton, John Charles, *M.C.*, M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Haydock Lodge, Newton-le-Willows, Lancs.

1922. Wootton, Leonard Henry, *M.C.*, B.Sc., M.B., B.S., M.R.C.S., L.R.C.P. Lond., D.P.M., Medical Superintendent, The Colony, Ewell, Surrey.

1900. **Worth, Reginald, *O.B.E.*, M.B., B.S.Durh., M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Springfield Mental Hospital, nr. Tooting,** London, S.W. 17. (*General Secretary since* 1919.) (Lect. on Ment. Dis., Westminster Hosp.)

1917. **Wright, Maurice Beresford, *O.B.E.*, M.D., C.M.Edin., 86, Brook Street, London, W. 1.**

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1921. Yellowlees, David, M.B., Ch.B.Glasg., 5, St. James Terrace, Glasgow, W.
1914. Yellowlees, Henry, *O.B.E.*, M.D., Ch.B., F.R.F.P.S.Glasg., F.R.C.P. Edin., D.P.M., Medical Superintendent, The Retreat, York.
1926. Young, Hubert Turner Penn, M.B., Ch.B.Edin., Medical Officer, H.M. Prison, Parkhurst, Isle of Wight.

Ordinary Members	706
Honorary Members	31
Corresponding Members	17
Total	754

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OBITUARY.

Honorary Members.

1907. Bianchi, Il Senatore Leonardo, Musee N. 3, Naples, Italy. (*Corr. Mem.*, 1896.)
1911. Donkin, Sir Horatio Bryan, M.A., M.D.Oxon., F.R.C.P., Medical Adviser to Prison Commissioners and Director of Convict Prisons, 28, Hyde Park Street, London, W. 2.

Members.

1912. Apthorp, Frederick William, L.R.C.P.Edin., M.R.C.S.Eng., M.P.C., "Mulgrave," Church Road, Burgess Hill, Sussex.
1880. Christie, Joseph William Stirling, L.R.C.P.&S.Edin., 21, St. Matthew's Gardens, St. Leonards-on-Sea.
1894. Eustace, Henry Marcus, B.A., M.D., B.Ch.Dubl., M.P.C., Medical Superintendent, Hampstead and Highfield Private Asylum, Glasnevin, Dublin.
1900. Haynes, Horace Eyres, *V.D.*, L.S.A., M.R.C.S.Eng., *J.P.*, Littleton Hall, Brentwood, Essex.
1878. Johnstone, J. Carlyle, M.D., C.M.Glasg., Scottish Conservative Club, Edinburgh.
1870. Lawrence, Alexander, M.A., M.D., C.M.Aberd., 26, Hough Green, Chester.
1883. Layton, Henry Albert, M.R.C.S., L.R.C.P.Edin., 14, Northwick Terrace, London, N.W. 8.
1898. Pasmore, Edwin Stephen, M.D., M.R.C.P.Lond., Medical Superintendent, Croydon Mental Hospital; Chelsham House, Upper Warlingham.
1924. Reed, John Charles Groscort, M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, The Old Manor, Salisbury.
1905. Simpson, Edward Swan, *M.C.*, M.D., Ch.B.Edin., Medical Superintendent, East Riding Mental Hospital, Beverley.

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THE JOURNAL OF MENTAL SCIENCE.

V. 74

EDITORS

J. R. Lord, C.B.E., M.D. Douglas McRae, M.D.

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Derby Borough.
East Sussex County.
Inverness District.
Ipswich County Borough.
Kesteven County.
Maudsley Hospital.
Wilts County.

Also the following Reports, Reprints, etc.:

The (Fifth) Report of the Inspector of Lunatics (Northern Ireland) for 1926.
Federated Malay States: Report of the Medical Department for 1926.
Union of South Africa: Reports of the Commissioner for Mental Hygiene, 1923–24 and 1924–25.
Tavistock Square Clinic: Report for the Years 1920 to 1927.
Interspecific Hybridization in Nicotiana, by *T. H. Goodspeed* and *R. E. Clausen*.
New Rhodophyceæ from the Pacific Coast of North Africa. On a Collection of Myxophyceæ from Fukien Province, China, by *N. L. Gardner*.

Continued on page iii of cover.

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Sir Horatio Bryan Donkin, M.A., M.D.Oxon., F.R.C.P.

Born February 1, 1845.
Died July 26, 1927.

Honorary Member since 1911.

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THE
JOURNAL OF MENTAL SCIENCE
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No. 304 [NEW SERIES No. 268.] JANUARY, 1928. VOL. LXXIV.

SIR HORATIO BRYAN DONKIN, M.A., M.D.OXON., F.R.C.P.

THE roll of illustrious honorary members of the Royal Medico-Psychological Association suffered a severe loss by the death of Sir Bryan Donkin on July 26, 1927, and the Prison Service was left to mourn a distinguished member of a past Board of Commissioners and an eminent civil servant.

He was the eldest son of the late Bryan Donkin, *C.E.*, and was born on February 1, 1845. He was educated at Blackheath Proprietary School, and entered Queen's College, Oxford, in 1863 with an open scholarship. He gained a first class in Greats, graduated B.A., and took the degree of M.A. in 1871. His original intention was to practise law, and he was called by the Inner Temple in 1868, but later decided to follow the profession of medicine, and entered St. Thomas's Hospital, and qualified as M.R.C.S.Eng. and M.B. Oxford in 1873. He was elected a Fellow of the Royal College of Physicians in 1880, and took the degree of M.D. at Oxford in 1893. He served for some time as Physician to the Westminster Hospital, and to the East London Hospital for Children, and as Lecturer on Medicine at Westminster Hospital and at the London School of Medicine for Women. He was also an Examiner in Medicine for the Conjoint Examining Board in England, and a Consulting Physician to Westminster Hospital, the East London Hospital for Children, and the King George (R.A.M.C.) Hospital. He was Harveian Orator at the Royal College of Physicians in 1910, taking as his subject "The Inheritance of Mental Characters."

In 1898 Donkin was appointed by the King to be one of His Majesty's Commissioners of Prisons and a Director of Convict Prisons. He became a member of the Royal Commission on the Care and Control of the Feebleminded which commenced its labours in 1904, and of the Departmental Committee of 1908 on the

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Inebriates Acts and Treatment of Inebriety. He retired from the Prison Commission on attaining the age-limit in 1910, but still remained in touch with prison administration as a Director of Convict Prisons, as a member of the Advisory Committee to the Secretary of State at Camp Hill Preventive Detention Prison, and as a member of the Visiting Committee at Borstal Institutions. He received the honour of Knighthood in 1911 in recognition of his public services.

It is almost inevitable that a man who reaches his eighty-second year will leave at his death no witness able to record his earlier hopes and fears, his sympathies and antipathies, his ambitions or manner of work and his later interests and achievements. So with Donkin, it is left to one who knew him only during and after his official life to write these words. There is, however, reason to believe that he regarded this period as the most important of his career.

Donkin entered the Prison Service, and became the first medical representative, a stranger, on the Board of Commissioners, but he gained the confidence and affection of his co-workers from the commencement of their association, and the passing years added to his influence. His equanimity and wide experience of men and affairs, combined with wisdom and quiet courage, clear vision and tenacity of purpose made him a valuable counsellor. A student throughout a long life, it was perhaps as such that he appealed most strongly to the prison medical officers; their difficulties became his, and their anxieties attracted his whole-hearted support. He was ever ready to encourage research and individual effort, and gave his advice freely.

In November, 1921, Donkin contributed to the *British Medical Journal* a review on the English Prison System written by Sir Evelyn Ruggles-Brise, late Chairman of the Prison Commission. He took this opportunity to make certain observations on the medical branch of the service. He first quoted the author's statement that "The medical care of criminals in this country is as exact and patient and considerate as can be secured by an able humane and untiring medical staff," and then himself remarked: "It may be said here that especially during the last dozen years or so the work of the medical officers of our prisons has been very onerous, owing not only to the rapid growth of medical knowledge from the latter part of the last century up to now, but also to various incidental circumstances. Within this period the whole question of prison diets has been re-organized on a scientific basis, and from time to time modified under the techincal supervision of successive medical inspectors, especially by Sir Herbert Smalley and Dr. Treadwell, late Medical Commissioners of Prisons. The difficulty

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of this task was greatly increased by the necessary changes introduced under the stress of war-time, when there was much scarcity of the staple foodstuffs.* Nor must we forget the exceptionally grave responsibility thrown by the Government on the prison medical officer, both before the war and later, during the frequent and protracted spells of "hunger-striking" on the part of various classes of prisoners commonly described as "political." Medical officers were charged with the extraordinarily harassing obligation of reporting from time to time whether such persons were physically and mentally fit for further detention. I venture to hope, as I have long contended, that in case of further occurrences of this kind the whole responsibility of preserving the life of such persons will be cast on their own friends and advisers, to whom all possible facilities and means should be provided by authority."

Donkin is concerned here clearly with the responsibility placed upon the medical officers, and I have no reason to believe that he objected to tube-feeding as such, or that he held the extreme view of Dr. Maudsley, who, it will be remembered, regarded the forcible feeding of insane persons to be degrading alike to the doctor and to the patient.

Those of us who look back upon his work as Commissioner have come to regard Donkin as the first co-ordinating force of modern medical progress in our prisons. He was fortunate to find, on taking up his official duties, men peculiarly fitted in the three main spheres of prison work with whom to co-operate. As a colleague at the Home Office, Dr. (now Sir) Herbert Smalley, who later became Commissioner, was Medical Inspector, and his long and intimate knowledge of prison problems was placed unreservedly at Donkin's disposal. Dr. O. F. N. Treadwell, who also became a Prison Commissioner, was carrying out his duties as medical officer in the convict prisons with prevision, and the late Dr. James Scott was recognized in the criminal courts as a reliable psychiatrist. These men, standing four-square, advanced the medical view of criminal problems to a position which it had not previously occupied officially, and from which further advancement was possible. They were pioneers, and the medical officers of the present day gratefully acknowledge their labours. It has seemed right to refer to their joint influence in an appreciation of Sir Bryan's own work, since he himself so constantly referred in generous terms to the work done by others. And it may be remembered that when Scott died some three years ago, Donkin, in a letter to *The Times*, recorded his appreciation of the erudition and services of that admirable expert-witness.

* A later Departmental Committee on Prison Diets sat during 1924–25 under the Chairmanship of Dr. G. B. Griffiths, Medical Commissioner.

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On attaining his Commissionership Donkin directed his attention to the intricate administrative problems arising from the association of abnormal mental states and criminal conduct, and his writings on criminal matters are concerned mainly with the wide application of technical knowledge and scientific thought to their elucidation. He, however, always recognized the necessity for clinical research in this direction, and insisted upon the importance of the study of individual cases. He expressed the opinion that even the most comprehensive generalization concerning convicted criminals was not likely to be of much positive value in the study or treatment of individuals, since the differences of observable characters in criminals and law-abiding men were so great.

The scientific investigation of those who offend against the criminal law can be carried out on similar lines to those used in the study of physical and mental disease. The two usual methods of approach offer themselves. The condition, whether normal or abnormal, may be examined clinically, and in detail, or investigation may be directed to ascertain the correlation between anti-social conduct and the influence of environment and heredity. I have already said that insufficient knowledge concerning Donkin's earlier years prevents the formation of any conclusion as to their influence on his later work; but there can be no doubt that during his Commissionership, and after, the work which appealed to him strongly was the study of the incidence of crime and its factors of heredity and environment. It must be borne in mind, however, that his position as an administrator facilitated his work in this direction, and that systematic clinical research might be at times officially inopportune. It may well be that he chose the work nearest to hand, and this view receives some support when it is remembered that he was a keen and observant clinician throughout his career.

Notable advance in prison administration has taken place since Donkin joined the Service. In this he took a full share. Much remains, and probably always will remain, to engage the attention of future workers. In the sphere of mental disorder alone, and its association with delinquent conduct, we must expect that psychological and criminal problems will perplex both scientists and administrators for many years to come. No one appreciated this more fully than Donkin, whose administrative work was marked by courage, foresight, moderation and sympathy. He realized that lasting progress might be delayed if attempts were made to force its too rapid growth, particularly in matters concerning social hygiene; and that not only was it necessary to be convinced oneself of the correct line of advance, but that it was equally important

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to convince others, who might be less assured that alterations were desirable.

This is not the time, neither is it the place, to enter into any particular account of the changes in the medical work of prisons that have arisen since Donkin joined the Prison Commission. It may be permissible to observe, however, that with criminals, as with the insane, incurable ineffectives remain a burden to the community, and that the most hopeful field of work lies in prevention. To this end modern medical efforts are directed to the early diagnosis of abnormal mental states associated with delinquency; to the unravelling, as far as possible, of the complex causes of individual crimes by psychological investigations, assisted by reports from voluntary social workers and home visitors; and by efforts to correct and adjust the offender at the beginning of his anti-social career.

Donkin agreed that the criminal did not necessarily differ essentially in his mental make-up from the law-abiding subject. He stated in his lectures on "Mental Defect and Criminal Conduct," delivered at the Maudsley Hospital in 1920, that he had long been convinced in common with other observers that all human beings were potential criminals, and that a large number of men and women committed crime in the sense of wilfully injuring society for their own individual purpose, whether or not they were detected in breaking, or even broke, any existing law. He added that the study of criminals was an integral part of the study of man, and of human psychology especially; but that the indefinite nature of the differences that had as yet been established between criminals and law-abiding men in the mass, seemed to him to point away from the prospect of establishing anything like a special and clear-cut body of knowledge, which would merit the name of a "science" of criminology. In this view Donkin had been opposed previously by Charles Goring, and readers of this Journal may remember the controversy which took place between them in its pages some years ago. It arose out of certain statements made by Goring in his monumental statistical study, *The English Convict*, published officially in 1913, and was terminated by his sudden and ever-lamented death. Space prevents me from reminding the reader of the details of their respective points of view; suffice it to say that Goring held criminology to be a "Science critical of the ideas by which conduct is being regulated."

Donkin readily engaged in controversy, but he never bore any ill-will towards his disputant. The joy of strenuous mental combat was his, and he delighted in the thrusts and parries of his adversary, with whom he was not infrequently on terms of mutual respect and

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goodwill. This was peculiarly the case in the personal relations of Donkin and Goring. Both were men of brilliant intellect, and both possessed rare personal charm.

Donkin considered the mental make-up of all men, whether law-breakers or law-abiders, depended upon inborn capacities, or possibilities of development, as well as on the multiform agencies from without, which act upon the germinal material and may influence its development. And he concluded from his studies that the various mental qualities of man could not be considered for the purpose of any investigation as simply constitutional or inborn without taking account of the external influences on their actual development. Difficult as it must be to assess with any precision the proportionate influence of the two necessary factors of heredity and environment in the development of the minds of normal men, no one accustomed to research among criminals will gainsay that in their case the assessment will be surrounded with even more difficulties, and Donkin considered it impracticable. He believed that wherever the truth might lie it was at present impossible to deal with human beings in the manner suggested by the most advanced adherents of Eugenic doctrines. He regarded with respect the legal, medical and administrative difficulties which would result from the adoption in this country of sterilization laws; and was convinced that no practicable measure could possibly cut off the supply of mental defectives, however much it might limit this supply, since all grades of marked defect frequently appear, and apparently *de novo*, in families in whom it is impossible to trace any near or distant relative similarly affected.

Some of us have thought that Donkin's original estimate of the amount of mental deficiency in the prison population was too high. In a conference at Birmingham he said, "The bald statement may be accepted that the weak-minded amount to between 10 and 15% of the total number of persons committed to prison; the true maximum is probably higher than this." And later he stated, "Owing to their inherited incapacities and surroundings a large number of mental defectives tend to become criminals, and the considerable proportion, even 20% of so-called criminals or law-breakers, are demonstrably mentally defective." This opinion he formed as a result of his official experience, and as a member of the Royal Commission on the Care and Control of the Feeble-minded, and it was expressed before the Mental Deficiency Bill of 1913 became law. There is reason to believe, however, that these views were modified in later years, for in the Maudsley Lectures referred to above he recorded the fact that of 475 prisoners who, as habitual criminals, were sentenced to preventive detention, and among whom

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a high incidence of mental defect might be assumed, 11 and no more were certifiable under the Mental Deficiency Act. And in a letter Donkin in 1925 referred me to these lectures for his views on the incidence of mental defect and crime. These figures, it will be observed, are more in agreement with those obtained by recent workers in our prisons, and Donkin recognized their significance in so far as they indicated that a special group of recidivist convicts, many of whom had spent more than half their lives in prison, showed no higher incidence of recognized mental defect than the less selected mass of prisoners in general.

The embarrassments resulting from the wording of the Mental Deficiency Act, 1913, soon became apparent in prison administration, for it was found impossible to relate the defect to early age in the majority of adult defectives. It must be acknowledged with gratitude that this difficulty is now largely overcome in adolescent cases by the help of educational authorities and voluntary associations. But Donkin was led to consider that the mere description of the various grades of mental defect should not have been converted into a statutory definition, nor incorporated in the required certificate. He regarded the essence of the certificate in cases of lunacy and mental deficiency to be reasoned opinion, and probably the majority of those engaged in certification will endorse his view. This was perhaps one reason why he so strongly desired the union of the Lunacy Acts with the Mental Deficiency Act. It does seem, however, to some of us who have worked in the criminal courts that if such union came to pass it might create difficulties, perhaps not less formidable than those which it attempted to solve.

Donkin's interest in the subject of criminal responsibility made him peculiarly fitted to write the introduction to Mercier's book, *Crime and Criminals*. He considered that the conception of responsibility nominally accepted in law required modification, and that degrees of responsibility should be decided in persons charged with crime. He agreed with the recommendation of the Joint Committee appointed to report on the matter, and adopted at the General Meeting of the British Medical Association in 1915, that in order to incur full responsibility a man must not only know, but also appreciate the nature and quality of his act, and also know and appreciate the circumstances in which it was done. He insisted that the only way to discover whether a criminal did know and appreciate the circumstances was to study his actions, or in other words his conduct in those circumstances. And he considered that a full regard for acts done, and all the circumstances in which they were done, would often be of great assistance in cases of special difficulty, and would enable medical witnesses to show

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that, although the accused knew in a limited sense of the word that the act he did was wrong, he yet did not appreciate all the circumstances and consequences of his act, and thus misconceived and under-estimated its wrongness. He agreed with Mercier that the turpitude of the criminal is to be judged by the intention with which he performs an act. That if he intends and tries to murder a man and does not succeed he should be hanged; and that if he intends to kill a dog and by mistake kills a man he should be punished only for killing the dog. And as the intention determines turpitude, so it ought to determine the nature of the crime and punishment.

No account of Donkin's views on psychological problems would be complete without a brief reference to his considered opinion regarding psycho-analytic theory and practice, to which he was actively hostile. He believed that they were unscientifically grounded upon deductions from unwarranted assumptions and false premises. He held that the protest of most psycho-analysts that no one is competent, or has a right to discuss the grounds, or the practice of psycho-analysis, unless he has himself carried out or been personally subjected to psycho-analytical examination, was fundamentally unsound, and if accepted, entirely vitiated the inquirer's judgment. He regarded the failure of psycho-analysts to report or publish their successes in such detail as is required by medical readers, or medical or other societies, whereat discussion and study are invited, indicated their unwillingness to subject their results to informed criticism. And he deplored the tendency of some medical men to acquiesce in the treatment of patients suffering from mental disorders by psycho-analysts who lacked medical training and qualification.

It would be unfair to attribute Donkin's antagonism to the conservatism of old age, and equally unfair to assume that his disapproval biased his judgment of the value of his opponent's arguments. His disapproval was rather the result of his belief that the methods of science were the only ones that he could trust, and that other methods led away from truth to speculation and confusion. He was, moreover, acquainted with patients who had suffered grievous injury at the hands of practitioners of psycho-analysis, and was apprehensive lest similar results befell others. He studied the literature of the subject with critical interest, and the discussion on psycho-analysis and its development held at the annual meeting of the Association in London on July 15, 1926, was one of the last at which he attended.

Donkin's interest in venereal disease was becoming in one who was ultimately responsible officially for the health of several thousand prisoners of both sexes, many of whom were peculiarly subject to

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venereal disease by their manner of living. It will be remembered that in 1913 a Royal Commission was appointed to inquire into the effects of venereal diseases and the best means of combating them. In the same year the National Council for Combating Venereal Disease was created. The Report of the Royal Commission was published in 1916, and as a result of the combined efforts of the two bodies an Act of Parliament was ultimately passed, which made provision for the better and earlier treatment of already infected persons. Donkin was a member of the National Council, and has described how its members advocated at first "early treatment" of persons already infected, and that as time and more or less open discussion went on the term "early preventive treatment" was introduced. But he became dissatisfied with the Council's programme, and resigned from that body because it vigorously opposed facilities for persons who ran the risk of infection to provide themselves with disinfectants which could be used immediately after transgressing.

He wrote subsequently a letter to the *Times*, in January, 1917, urging preventive measures, and shortly afterwards joined forces with his old friend, Dr. Archdall Reid, who had been directing practical efforts to diminish venereal disease among the large number of soldiers who were under his medical charge. In his book on the *Prevention of Venereal Disease*, Sir Archdall Reid pays a large-hearted tribute to Donkin's co-operation. He describes his letter to the *Times* as "fateful," and adds that "since then the history of the movement for the medical prevention of venereal disease is mainly the history of his labours on its behalf." Sir Archdall Reid describes how they were able to give each other mutual support. Donkin was in a position to influence public opinion, especially the opinion of leading members of the profession, and Reid was able to furnish an object-lesson in immediate disinfection.

The Report of the Royal Commission led to the formation of the Society for the Prevention of Venereal Disease with a prophylactic policy, and Donkin and Sir Archdall Reid joined its long list of distinguished supporters by invitation. In sending a representative to attend his funeral the Society gracefully recognized Donkin's services to a common cause.

The first contribution to medical literature which I am able to trace to Donkin is a "Commentary on 105 Cases of Chorea" published in the *Westminster Hospital Reports* in 1885. He also published a book on *Diseases of Childhood* in 1893. He wrote the article on "Hysteria" in Tuke's *Dictionary of Psychological Medicine*, representing the English point of view at that time; this was accompanied by an article on hysteria in the same volume by

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Charcot and Marie representing the French standpoint, and both English and French descriptions contain much of interest for the student of to-day. Among later contributions were "Notes on Mental Defect in Criminals," "The Factors of Criminal Actions," "Occasional Notes on the Mental Deficiency Act," and the obituary notice of Charles Mercier, all of which appeared in this Journal. He contributed to *Bed-Rock*, of which review he was at one time co-editor, articles on "The Mental Deficiency Bill and its Critics," "Some Thoughts on the State Punishment of Crime," "A Note on Legislation for the Control of the Feeble-minded," and on "Science and Spiritualism." His lectures on "Mental Defect and Criminal Conduct" were reprinted in the *Lancet*. He wrote in the *Nineteenth Century and After* on "The Fight against Venereal Infection," and also wrote an introduction to Dr. McBride's book, *Psycho-Analysts Analysed*, to Sir Archdall Reid's work on the *The Prevention of Venereal Disease*, and, as already mentioned, to Mercier's book, *Crime and Criminals*.

Donkin was an independent thinker, and a fearless, painstaking and scholarly writer. In some of his literary work one seems to detect his thoughts even as they shaped themselves in his mind in orderly sequence. But he was a precisian, and sometimes one can believe that his pen halted for a moment whilst he searched through the storehouse of his learning for the only word that fitted his purpose. The finished polish of the honest workman was his, and he eschewed artificial effects. His obituary notice of Mercier was an admirable piece of writing, a sincere record of the dead man's character and work, traced with a firm yet delicate touch, and formed a notable offering to their friendship of thirty-five years.

Donkin never forgot his Classics, and was extremely well read in English and French literature. He retained a loyal affection for his old University, and had the good fortune to read the Greats School there, and fully appreciated in after life all that he owed to his earlier studies in philosophy. On him were stamped all its traditional works, the alertness of mind, the fastidiousness of taste, the dislike of what is vulgar and illiberal, above all the love of learning for its own sake. Few things delighted him more than to hear news of the Oxford of to-day, and compare it with the Oxford of the 'sixties when he read essays to Jowett, and had been the special pupil of Walter Pater. Even more did he love to go back there and re-visit his old tutor, Dr. Mograth, who still presides over the College to which more than sixty years ago he first welcomed Donkin as an undergraduate.

An old friend of Donkin's writes: "Many of his contemporaries have made more noise in the world; many have had more than he

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of the qualities that make men famous and admired. But in the qualities which make men happy in their own lives and a source of happiness to others, in good sense and good manners, using manners in the older and nobler meaning of the word, Bryan Donkin was not and will not be surpassed."

His sincerity, sympathy, learning and modesty won him friends and admirers far beyond the circle of his own profession, and it was to help him in raising funds for the East London Hospital that one of them, W. E. Henley, first came to publish verse. He was intolerant of advertisement, chicanery, charlatanism and loose thinking; he only spoke and wrote that which he believed to be true, and was always ready to unsheath his sword in the cause of truth as he saw it. The friend referred to above notes that "in an age so given to specialization that scientific and humane learning are regarded as almost antagonistic, it ought not to be forgotten how admirably Donkin contrived to combine them. Like the great men of the early days of science he would not submit to any such unnatural separation." He was, in truth, not only a learned, but a humane and sensitive man, and peculiarly responsive to sympathy; some two years before his death the writer congratulated him upon a certain course of action he had taken, and his expression of thanks remains a living memory.

During his earlier years Donkin found outdoor relaxation in riding and rowing, of which he was very fond, but he cultivated no hobbies or outdoor pursuits in later life. He retained his interest in medical progress and general affairs to the end, and visited his successors at the Home Office to within a few months of his death. He believed that mental alertness would compensate for such physical inactivities as the passing years might inflict, but he was singularly free from the disabilities of age, and was engaged in preparing material for publication in this Journal when struck down with hemiplegia, which ended fatally within a few days.

Sir Bryan married, in 1888, Auguste Margaretha Elisabeth, daughter of Conte di Langhi of Cracow. There were no children of the marriage, and her death in 1919 was a severe blow to him. When he married in 1923 an old friend of the family, Mrs. Marie Louise Bates, daughter of the late William Reston, of North Carolina, and widow of Isaac Bates, of Belfast, his friends rejoiced, for this gracious lady gave him the intellectual companionship which the advancing years, and the deprivation of outlived friends, made increasingly difficult for him to obtain.

A last word. Donkin had considered his religious position when at Oxford with the systematic deliberation which characterized him. He consulted a number of spiritual advisers, among them

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Dean Liddon and a Catholic priest. In the end, as not infrequently happens in such cases, he found himself unable to accept any system of dogmatic religion. He, however, retained an interest in the affairs of the Church of England, and stoutly as he maintained his own views, respected those of others. He believed that beyond man's finite understanding there is an Infinite Purpose. As he surveyed the future untiring and confident, he looked back upon a life of high endeavour and solid achievement, honoured by his own profession; honoured, too, by those others with whom he had laboured for so many years. Need man wish more? Need more be said?

W. NORWOOD EAST.

Part I.—Original Articles.

*The Beattie Smith Lectures on Insanity for 1926.** By RICHARD J. A. BERRY, M.D., F.R.C.S., F.R.S.Edin., Professor of Anatomy, including Histology, in the University of Melbourne; Honorary Psychiatrist to the Children's Hospital, Melbourne; Honorary Consulting Psychiatrist to the Melbourne Hospital, and Member of the Royal Medico-Psychological Association.

LECTURE I.—THE PRINCIPLES OF NEUROLOGY.

THE nervous system of all vertebrates is built up of long conducting, specialized cells, termed *neurons*. In order to function, these neurons, or nerve-cells, must be linked together in chains or arcs. Each neuron in the chain or arc is structurally separated from other neurons by a break termed a *synapse*. The structural elements of a neuronic arc are, therefore, as follows:

1. A sensitive receiving organ—the *receptor* or sense-organ.
2. A centrally conducting receptor bipolar neuron.
3. One or more short connector or *internuncial* neurons.
4. A peripherally conducting *effector* multipolar neuron.
5. An *effector* apparatus—for example, a muscle or a gland.

The phenomena of the nervous system are much more easily understood if the terms "receptor" and "effector" are uniformly utilized instead of the older "sensory or afferent" and "motor or efferent." In fact, the older terms are frequently quite inaccurate,

* The late Dr. W. Beattie Smith, of Melbourne, in the expressed belief that "both the Profession and the Public were in need of education on the nationally important problem of Insanity," bequeathed to the University of Melbourne the necessary funds for the establishment of an annual course of lectures. The 1926 series, in the regrettable absence through illness of Professor Sir John Macpherson, were delivered by Professor Berry, in December, 1926, in Melbourne, and in April-May, 1927, in New York, U.S.A., at the Cornell University.

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inasmuch as many effector neurons, for example, are not concerned in motor phenomena. Further, the great clinical importance of endeavouring to refer all nerve phenomena to their appropriate sides of the neuronic arc may be shown as follows:

1. Receptor neurons		Locomotor ataxia.
2. Internuncial neurons	Normal	Psychology
	Abnormal	Psychiatry.
3. Effector neurons		Hemiplegia.

As regards the *receptor* or "*sense*"-*organs* of the neuronic arc, these vary from simple structures like naked axons, to complex pieces of apparatus, like the organ of Corti. It is a mistake, for it leads to confusion, to term these receptors "nerve-endings" or "peripheral terminations of axons," because they really mark the commencing point of nerve stimulation.

The receptor organs of viscera, arousing enteroceptive impulses, are usually naked axons themselves. They respond to chemical, mechanical, physical, or other minimal stimuli.

The receptor organs of the locomotory system, arousing proprioceptive impulses, comprise muscle spindles, corpuscles of Golgi, corpuscles of Pacini, and the semicircular canals. Enteroceptive and proprioceptive impulses are thus concerned only with the body itself.

Exteroceptive impulses, on the other hand, are conveyed to the brain from the physical world around and outside the body, and are largely concerned in arousing consciousness. They comprise, in the skin, receptor organs for touch, temperature and pressure; the relatively feebly developed (in man) olfactory organ of smell; the rods and cones for vision; the organ of Corti for hearing, and many others. It is thus a serious mistake to speak and think only of the "five senses" of man. Man possesses about twenty "senses," but even these "senses" are limited, and only put man into conscious touch with a limited part of the physical world around him. As regards the long conducting receptor and effector neurons of the neuronic arc, medical attention has for the most part been chiefly, and for too long a time, devoted solely to these elements of the nervous system. In the phenomena of mind and its aberrations, it is the shorter, internuncial neurons which are of supreme importance, and to these an insufficient amount of attention has been paid, and yet the evolution of this most important nerve element of the neuronic arc is most instructive.

According to Ramon y Cajal, the nervous system has passed through five stages, which, from the standpoint of its structural element, the neuron, are as follows:

1. The epoch of irritability.
2. The epoch of the reflex arc.

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3. The epoch of the inter-segmental reflex neuron.
4. The epoch of the supra-segmental reflex neuron.
5. The epoch of the psycho-associational neuron.

In the last two evolutionary stages the internuncial neuron is the dominating factor.

The epoch of irritability.—Here a receptor cell receives a chemical or physical stimulus, and transmits it direct to an adjacent effector or contractile (motor) cell. Examples of this primitive type of nervous system are seen in the Sponges, and may exist in the myenteric or gut-wall reflexes of man.

The epoch of the reflex arc.—The receptor and effector cells are here elongated to form a simple neuronic reflex arc. A receptor stimulus, from a limited area, is transferred, through the now elongated cells, to an extensive area of reaction, over several effector cells. The nervous system of Cœlenterates is of this type and doubtfully the patellar reflex of man.

The epoch of the intersegmental reflex neuron.—Here there is introduced, for the first time in the evolution of a nervous system, a third, interpolated, or *internuncial*, neuron, between the receptor and effector limbs of the neuronic arc. It is this third, or internuncial, neuron which is eventually utilized by Nature, to give those phenomena which we term "mind." The neuropile of the earthworm contains the internuncial or third neurons in a primitive form, and most of the spinal cord reflexes of man are compounded of neuronic arcs of this order. It is important to note and remember that the type of internuncial neuron differs in the segmented portions of the neuraxis, from the more recently added supra-segmental additions. In all segmented animals, such as most vertebrates lower than the mammal, the reflex neuronic arc and the inter-segmental internuncial neuron suffice to regulate the motor reactions in the behaviour of the animal. All the bodily motions are *immediate* responses to the stimulus—that is, there is no delay in the motor response to the stimulus, and the nature of that response can be predicted with certainty. The reactions of such animals to their environment will always be the same, and the combinations of these stereotyped performances will be limited in scope and rigid also in form. Up to this time in the development and evolution of a nervous system there is, therefore, no appreciable interval between the receipt of a stimulus and the despatching of the motor or effector impulse, so that the reflex arc has an immediate consummation in motion. In the higher animals such immediate response to the stimulus would be disadvantageous. A *period of latency* is necessary, and consequently there are introduced

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between the receptor and effector limbs of the neuronic arc a number of short interpolated or internuncial neurons.

There are two great types of internuncial neurons—segmental and supra-segmental. In the *segmental* portions of the neuraxis the internuncial neurons are of the association and commissural orders, as seen in most animals lower than mammals, and in the spinal cord, medulla oblongata (exclusive of the pyramids), the dorsal pons, and the tegmentum of the mid-brain in man.

In the *supra-segmental* neuraxis, the internuncial neurons are usually of the "granular" or Golgi Type II order, and are found in man in the tectum or roof of the mid-brain, the cerebellum, the inter-brain, and the cerebrum.

The general plan of the neuronic construction of the *segmented* portions of the neuraxis is practically constant in all vertebrates, and is relatively simple. There are comparatively few interposed or internuncial neurons between the receptor and effector limbs of the neuronic arcs, and such a form of neuraxis controls, in all vertebrates, the fixed and fundamental organic reactions, that is, those which are usually reflex, unconscious, and essential to the maintenance of life. A segmented neuraxis is obviously incapable of much increase in the numbers of its interposed or internuncial neurons, because the grey matter is situated in the interior, is everywhere surrounded by white matter, and is thus incapable of extension.

The *supra-segmental* portions of the neuraxis, on the other hand, are much later evolutionary additions to the neuraxis. They serve the purpose of some special additional functions for which the segmental neuraxis does not provide. As the grey matter is situated on the exterior in all supra-segmental additions, there is ample room for additions to the numbers of interpolated or internuncial neurons, and thus the animal is adapted to much more complex correlations of nerve impulses. In those lower animals with a segmented neuraxis only, the reactions to the environment, or the behaviour, will be fixed, constant, and innate (instinct), whereas in animals with a supra-segmental cerebral cortex (mammals and man) the reactions to the environment, or the behaviour, will vary, and, in their higher manifestations, constitute reason or "mind."

These differences in the behaviour of the lower animals and man, that is, the reactions to the environment, are entirely brought about by a progressive increment, at the cephalic end, in the numbers of internuncial neurons interposed between the receptor and effector limbs of the neuronic arcs. Contrast, first, the segmental spinal cord and the supra-segmental cerebellum. In the *spinal cord*, the internuncial neurons are comparatively few in

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numbers, are of some length, their axons are not confined to the grey matter, and their purpose is clearly to pass on the nerve impulses as quickly as possible. They are either associational or commissural in character. In the *cerebellum* the internuncial neurons are enormous in numbers, have no length, the whole of the neuron—dendrons, cell bodies and axons—is strictly confined to the grey matter, and their function is clearly to arrest the flow of nerve impulse through the cerebellum—that is to say, the function of such supra-segmental internuncial neurons is to store up nerve energy. Clinically, the cerebellum is known to be a store-house of such energy. It is *constantly* receiving proprioceptive impulses from all parts of the locomotory apparatus of the body, and is thus constantly storing up nerve energy. It is a significant fact that the structure of the cerebellum is practically the same in all animals. From without inwards there are:

1. A grey, molecular layer, receptor in function, and containing very numerous basket and cortical cells.
2. A middle layer, composed of a single row of Purkinjë effector cells.
3. An internal granular layer, receptor in function, containing granular and Golgi type II neurons.

Within the three layers of this cerebellar cortex are also found medullated axons, known as moss fibres, climbing fibres, and Purkinjë cell axons. Now this mass of nomenclature disguises the truth. Stripped of this nomenclature, cerebellar cortical histology simply teaches once more the great principles of the neuronic arc, thus:

Receptor axons.—The moss and climbing fibres are the axons of proprioceptive neurons pouring into the cerebellum impulses from muscles, joints, semicircular canals, etc.

Internuncial neurons.—All the basket, stellate, cortical, and Golgi type II cells described in the cerebellar cortex are internuncial in character, and serve to arrest, or store up, the impulses constantly poured into the cerebellum.

Effector neurons.—The cells of Purkinjë, very much less numerous than the internuncial cells of the cerebellum.

The relative fewness of the effector or Purkinjë cells of the cerebellum, as compared with the proprioceptive axons and the internuncial cells of the cerebellum, affords a natural proof that nerve impulses must be stored up in the cerebellum. Further, the wide-spreading antler-like dendrons of the cells of Purkinjë are admirably adapted for the collection of impulses from the numerous internuncial cells of the cerebellar cortex; and lastly, as cortico-cerebellar connections are far more numerous than cortico-spinal,

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the cerebellum obviously discharges its accumulated nerve energy under control from the cerebrum.

The mammalian cerebellum is thus an excellent example of Cajal's fourth stage in the evolution of a nervous system—that is, of the *epoch of the supra-segmental reflex neuron.* The introduction of the innumerable internuncial neurons between the receptor and effector limbs of the neuronic arcs furnishes the machinery by which the *period of latency*, or the delay between the receipt of the stimulus and its translation into action, is brought about. The nervous system has thus clearly come under the guidance of a new influence, and has now acquired the far-reaching quality of being able to withhold action until it is most opportune or profitable. Behaviour is thus no longer a matter of instantaneous impulse, but is made subject to a certain degree of supervision. *This marks the beginnings of psychic life.*

The final stage in the fashioning of an organ of mind is reached with the mammal, and culminates in man. In the *mammal* there is, for the first time, a true neo-pallial cerebral hemisphere, with three main cortical layers and primitive and limited undifferentiated areas foreshadowing the huge association areas of the "mighty brain of man" (Gaskell). In the *higher mammals* and *anthropoid apes* there are five histological cortical layers and rudimentary association areas. In *man* there is a fully developed five-layered histological cerebral cortex with large association areas. The chief structural differences between the brain of man and that of any other mammal is that the former contains an infinitely greater number of internuncial neurons.

If the brains of any of the *lowest mammals* and *man* be looked at with the naked eye, the *mammal* will be seen to have a small, smooth brain, about equally divided into an archi-pallium or smell brain and a neo-pallial brain, with practically no association areas. *Man* possesses a large, convoluted or gyrencephalic brain, with the archi-pallium or smell brain relatively suppressed. The neo-pallial brain is enormously increased, the functional areas being exactly as in the mammal, though separated from each other by large, well-developed, association areas. These naked-eye differences between the brain of the mammal and man are largely due to an enormous increase in the numbers of cortical internuncial neurons. It has been estimated that these number 9,280 millions, and no other animal possesses even a third of this number.

It is to be particularly noted that in many human beings these brain-cells do not all reach maturity, and consequently the individual's mental reactions to his environment are on an altogether lower plane, and it is this fact which explains many anti-social

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phenomena, for a one-cylindered motor car cannot possibly do the same work as a six, or even a four, though the external differences may be slight. Before anyone is entitled to formulate theories concerning the phenomena of mind, or its aberrations, it is surely essential to know something of the histological construction of the cerebral cortex, and yet this appears to be what most theorists ignore, for human cortical histology is, to most students, a repellant subject, to be forgotten as soon as the exigencies of examinations permit. But the truth of the matter is that cortical histology is an extremely important subject. Its teachings are of the utmost significance in the study of the reaction of the individual to his social surroundings, in the practice of medicine, and in the phenomena of everyday life.

Pavlov states that he was struck by the fact that, when the physiologist leaves the study of the simpler parts of the central nervous system, which he has investigated by the observation of the reflexes, and proceeds to the higher parts, especially to the cerebral cortex, his methods suddenly change. He gives up, says Pavlov, observations of the relation between external phenomena and the reaction of the organism to them, and introduces psychological ideas, derived from his own internal consciousness. This changed attitude can only arise either from neglect of structural studies, or from an inability to realize that the cerebral cortex is constructed on exactly the same principles as all other portions of the nervous system—that is, of neuronic arcs, but with enormous numbers of internuncial neurons between the receptor and effector limbs. When one looks at the primitive diagrams which still profess to illustrate cerebral cortical histology in current medical text-books, it is, perhaps, not surprising that the fact that mind results from a multiplicity of internuncial neurons is not understood, and that if the individual does not possess his average share of such neurons he must perforce be of less than average intelligence. Under an unsuitable environment he may further become a social menace.

The *cerebral cortex* fulfils functions so different from those of either spinal cord or cerebellum as to suggest the employment of a different construction. Yet such does not appear to be the case, for the cerebral cortex is once more compounded of neuronic arcs, the main components of which are as follows:

Receptor axons.—The thalamo-cortical and other receptor neurons.

Internuncial neurons.—

Spinal cord type: The associational and commissural neurons with cell stations in both the polymorphic and pyramidal cortical layers.

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Cerebellar type: The granular (Golgi type II) cells of the third cortical layer.

Effector neurons.—The giant and other pyramidal cells, and possibly other projection systems.

All the evidence seems to warrant the only reasonable conclusion that it is the presumably internuncial cortical neurons which, by storing up those numerous nerve impulses which continually bombard the brain from birth to death, act as the physical basis of memory, and, therefore, of speech, reason, judgment, and of all other mental phenomena. If one's ideas are not in the brain-cells, where are they, and for what are the extraordinarily numerous brain-cells, if not for this purpose? Again, why is it that the human microcephalic idiot is so hopelessly devoid of ideas if it is not because he is so grossly lacking in brain-cells? Why is all human progress the result of the work of the multi-neuronic genius, and not of the cerebral ament, who is usually responsible only for much human suffering, disease and financial loss? And lastly, why is it that the late acquisition of speech by a child is such a significant clinical sign of cerebral amentia? It is surely of the first importance to study the construction, development and functions of the cerebral cortex.

The *mammalian cerebral cortex* is primarily built up on an infra-granular basis (Watson), but in man there is a fully formed five-layered cortex, the intermediate transitions between the early mammalian cortex and the human being represented by many living mammalian forms. These five primary layers of the human cerebral cortex are named by Bolton and Watson respectively:

Bolton.	*Watson.*
The outer fibre lamina.	The supra-granular cortex.
The outer pyramidal cell lamina.	
The middle or granular cell lamina.	The granular cortex.
The inner fibre lamina.	The infra-granular cortex.
The inner polymorphic cell lamina.	

It is thus clear that the chief difference between the human brain and that of any other mammal is not so much a difference of construction, as of enormously increased numbers of brain-cells or neurons, and that these increments mainly concern the internuncial neurons interposed between the receptor and effector limbs of the cortical neuronic arcs. These increments of cortical neurons are brought about in several ways. There is, first, an actual increase in linear size, for the brain of man exceeds that of any other mammal—that is, it contains more neurons. Next, the complexity of the fissuring of the surface still further increases the numbers of neurons.

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The presence of association areas adds more neurons, and to all these there is added an outer pyramidal-celled layer, containing far more neurons than in any other mammalian brain, and providing the human being with the power of inhibition. With all these increases in size, prominence and complexity, the nervous system has become gradually transformed from an instrument of reflex activities into a brain of intelligence and mind, but the structural process by which this is accomplished is always the same, namely, a constant increase in numbers of neurons combined into arcs and chiefly involving the interpolated or internuncial neurons between the receptor and effector limbs of the arcs.

The *human cerebral cortex*, with its millions of receptive or granular cells (cerebellar type of internuncial neurons), and its even more numerous associational and commissural polymorphic and pyramidal cells (spinal cord type of internuncial neurons), represents the last stage in the evolution of a primitive nervous system from one of reaction to physical stimuli into one of intelligence and mind—that is, Cajal's *epoch of the psycho-associational neuron*. This attains its highest development in man, but does *not* attain equal development in all human beings. There are consequently many who are not always able to react normally to the human environment described as normal by normally developed individuals. Such a highly developed brain, when its development is really normal, makes possible numerous associations between the various types of sensibility out of which the individual is constructed, and upon which the foundations of all the higher faculties rest, but it is to be particularly noted that even this complex brain is still built up of neuronic arcs.

The *key to cortical histology* is, then, the fact that the human brain is made up of receptor axons, joined functionally to the effectors, by a complex mass of internuncial neurons of the segmental and supra-segmental orders, and interposed, like a rheostat, between the main long conducting neurons. Within the nerve elements of this rheostat, incoming nerve impulses become arrested, stored up, dissipated or discharged, and thus the properties of "mind" are the special functions of these cortical internuncial neurons. The human cerebral cortex is thus, as Howell has suggested, a vast collection of neuronic arcs, and its main components would appear to be:

Receptor.—Thalamo-cortical and other receptor axons, which run into the cerebral cortex as radial bundles, and turn thence at right angles to form the lines of Baillarger, running parallel to the surface. These discharge on to—

Internuncial neurons, comprising the granular cells of the third

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cortical layer, and thence on to the polymorphic and pyramidal association and commissural axons, proceeding to all parts of the cortex, in which the incoming impulses are stored up for immediate or future use.

Effector.—The projection systems, such as the cortico-spinal and cortico-ponto-cerebellar, and possibly others.

If, from developmental errors, lack of use, or other cause, these numerous cortical internuncial neurons do not continue their development, as they should do, from neuroblast to neuron, there will be a proportionate diminution in intellect. But further, if, after a correct development from neuroblast to neuron, the latter becomes subsequently impaired by disease (toxæmia, or other poison) or injury, there must also result a corresponding impairment of intellect. When the numbers of properly functioning cortical neurons fall, from either of these two great causes, below a certain proportion, the reactions to the environment may depart so markedly from what normal people call normal, as to constitute a legal insanity, but the minor degrees of lunacy usually pass quite unnoticed. Cortical histology thus ceases to be a repellant subject, but becomes intelligible, interesting and of the utmost importance.

Cerebral function.—Medical and other diagrams purporting to display areas of known cortical function, such as the somæsthetic, Rolandic motor, visual, hearing, etc., are correct so far as they go, but, as they only show cortical function in vertical projection spheres, they disguise the important fact that the cerebral cortex also functions in horizontal planes. There must, therefore, be considered the functions of the granular receptive cortex, the infra-granular, and the supra-granular.

The *granular cortex* is always well developed in known receptive cortical areas. This layer thus primarily subserves the reception of nerve impulses, whether these arrive directly from the lower receptor neurons, or, indirectly, from other cortical regions. It has been shown that the first type of internuncial neuron introduced into the neuraxis is of the associational and commissural varieties. Why, then, are granular internuncial neurons introduced into the later supra-segmental additions? Clearly, as in the cerebellum, for the reception and storage of receptor nerve impulses, and the association of present with past impulses. Therefore, such neurons must play an important part in memory. In the visuo-sensory area, that is, the cortical area where visual impulses are first received, the granular neurons are so numerous as to form a double band around the incoming visual medullated axons (stria of Gennari) conveying such impulses. It is even more instructive to note that

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in cases of congenital blindness, where visual impulses have never been transmitted or received, the stria of Gennari and that part of the granular layer lying superficial to it are diminished in depth, by sometimes as much as 50% (J. Shaw Bolton). Clearly, then, cortical neuroblasts not stimulated do not develop.

As regards the functions of the *infra-granular, polymorphic* or *instinctive cortex*, the researches of Bolton on the human brain, and of Watson on the mammalian brain, show that the infra-granular cortex is concerned with the performance of the instinctive, in contradistinction to the reasoned and inhibitory (supra-granular) or receptive (granular) activities. It is, therefore, in the human being, the brain of those purely animal instincts which are inherent in every human individual, and are essential for the preservation of the individual and the species. It presides over those bodily functions which require, for their fulfilment, no experience or education. These actions form the basis of many complex reflexes necessary for the preservation of the individual and the species, such as the acquisition of food, the quest of the opposite sex, and other actions necessary to life. (Watson.) Such being the functions of the infra-granular cortex, what is its structure? The layer is apparently composed of polymorphic cells, whose axons form association and commissural fibres—that is, of neuronic arcs. Bolton finds that the layer is of extremely constant depth in the adult, which means that its contained cells are also fairly constant. In cases of high-grade amentia and of chronic insanity with moderate dementia, the thickness of the infra-granular cortex is slightly decreased. In low-grade aments and in gross dements, who are unable to carry on the ordinary animal functions, such as attending to their own wants, the thickness of the infra-granular cortex is considerably decreased. The behaviour of the individual, that is, his reactions to his environment, are thus correspondingly altered.

The pyramidal cells of the *supra-granular cortex* are a recent evolutionary addition to the mammalian brain, and attain their highest development and largest numbers in man. The supra-granular cortex is, indeed, the most prominent histological feature of the human brain, and constitutes a higher level basis for the carrying on of cerebral and mental functions. It is the last cortical cell layer to be evolved, and is the first to undergo retrogression. It is the only cortical cell layer which varies definitely in measurable depth in normal brains, and is under-developed to different degrees, according to the mental capacity of the individual exhibiting various grades of mental sub-evolution. It undergoes degrees of retrogression which correspond to the amount of dementia existing in cases which permanently suffer from diminution or loss

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of their mental powers. Except for the fact that the contained cells are pyramidal in outline, that is, of the effector type, instead of polymorphic, the supra-granular cortex is an exact repetition of the infra-granular. That some essential functional meaning attaches to these structural differences of form is certain, and lends support to the views of Bolton, Watson and Mott, of the important differences in function of these two great cortical layers.

In view of the already suggestive evidence of the functions of the horizontal layers of the cerebral cortex, it is regrettable that *post-mortem* examiners continue to neglect even the simplest estimation of the thickness of the cerebral cortex, whilst a systematic microscopic examination of the cortical cells themselves is practically never made outside the mental hospital laboratory, and even there not always as a systematic procedure. Yet even older and largely forgotten observations show the necessity for such systematic examination. Thus Conti and Franceschi found the average thickness of the normal human cerebral cortex to be 2·25 and 2·47 mm. respectively, whilst Bucknill and Tuke, and Cionini, found the thickness in the insane to be reduced to 1·88 and 1·83 mm. respectively.

Conclusions.

As a result of this study of the comparative anatomy and minute structure of the vertebrate nervous system, and of the functioning of cortical brain-cells in horizontal layers, there begins to emerge the highly significant fact that in every human individual there is an inner or infra-granular brain of the animal instincts and activities and an outer or supra-granular brain of control, inhibition and educability. Bolton has shown that the neurons of the latter develop late and are extremely variable in numbers in different individuals; hence it follows that some will react to their social environment on a more nearly animal basis than others, and there thus appears to be an established physical or structural basis for many social problems, such as certain crimes, prostitution and general inefficiency, as well as for many of the insanities.

In cases of mental affection, grading from idiots and imbeciles, through various types of amentia, great differences in the thickness and numbers of neurons of the supra-granular cortex have been quite definitely established, both macroscopically and microscopically. In *amentia* the condition is one of under-development of the cortical layers, particularly the supra-granular, whilst in *dementia* there has been a destruction of such cells, and the destruction affects the layers in the reverse order to that of their development, the most affected being the latest developed, and the least

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affected being the earliest developed. It is thus clear that cortical histology is an extremely important subject, and that its teachings are of the utmost significance in the study of the reaction of the individual to his social surroundings—that is, his behaviour; in the practice of medicine and jurisprudence; in the study of normal and abnormal mentality, and in the phenomena of everyday life—that is, in all industrial and social welfare work.

Lecture II.—Application of the Principles of Neurology to the Insanities.

The *development of the normal human brain* occupies a long period, which may be best examined at three stages—the prenatal nine months, at birth, and the eighteen (more or less) post-natal years to adolescence.

During the *pre-natal nine months* the single-celled ovum becomes converted, by repeated subdivision, into the multi-celled embryonic nervous system. During this stage the future functional brain-cell passes through several developmental phases. There is, first the germinal cell, which becomes changed into the indifferent cell; then follows the mitotic indifferent cell, which divides into the neuroblast and the spongioblast. At birth the brain is largely in this neuroblastic-spongioblastic condition, hence the child's apparent idiocy. The neuroblast eventually becomes converted into the nerve-cell or neuron. The spongioblast forms the supporting or neuroglial cell. If neuroblastic development exceeds spongioblastic, there may result the multi-neuronic genius. If, on the other hand, spongioblastic development predominates, there may result the large, heavy brain and big head of the unintelligent. These developmental facts are usually ignored by those who altogether deny any correlation between head size and developmental state of the brain.

At *birth* the brain is, as just stated, in a largely non-functional neuroblastic condition, and only those axons are fully medullated which are necessary for the maintenance of life (Flechsig).

During the *first eighteen years* (more or less) of *post-natal life*, the embryonic, non-functional neuroblasts become converted, under suitable exteroceptive and other stimuli, into fully developed, functional neurons, linked together in neuronic arcs.

But nerve-cells, or neurons, are not the only cells formed from the fertilized ovum. There are three great types of bodily cells so formed, as follows:

Somatic or bodily cells, such as those of bone, muscle, etc.
Reproductive cells—the spermatozoon or ovum.
Nerve-cells or neurons.

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All three types pass, developmentally, through several stages, and they may be arrested in their development at any stage. Thus developmental failure of somatic cells may produce hare-lip, cleft palate, club-foot and the like. Failure of the reproductive cells may subsequently result in impotence. Similarly, though it does not appear to be as generally recognized or admitted, neuronic cell failure of normal development may occur, and if pronounced, must result in some subsequent display of mental aberration or unintelligence.

If the development of the neuron becomes arrested at, or about, the *eighth month of pre-natal life*, whilst somatic and reproductive development proceeds fairly normally, the subsequent mental aberration, or inability to react to the environment in a normal manner, may be so pronounced that legal certification will be demanded, and the individual branded as an idiot or an imbecile. Thus a microcephalic idiot, æt. 23, was unable to talk, but could fetch or carry and perform simple routine tasks, and the *post-mortem* examination revealed the fact that the brain was small and lissencephalic and weighed only 568 grm.—clearly a form of insanity entirely due to a prematurely arrested neuronic brain development.

As regards the *causes* of these prematurely early developmental neuronic failures it is not always possible to speak with certainty, because, though some are definitely known, others are only conjectural. Amongst the known causes may be mentioned heredity, syphilis, and birth injuries to the brain. Amongst the conjectural are alcoholism, tuberculosis, etc., in the parents. It is unnecessary here to stress the enormous influence of *heredity* as a cause of the developmental insanities, because the records of every properly conducted mental hospital contain thousands of examples. So long as civilized communities refuse to recognize the developmental mental disorders and to pay more attention to the good breeding of dogs and domestic animals than to human beings, it is to be feared that the developmental insanities will tend to increase rather than diminish. The effect of *congenital syphilis* in arresting brain growth, or at least seriously retarding it, has been made painfully obvious at the Psychiatric Clinic of the Melbourne Children's Hospital, and most mental hospitals can furnish the adult examples. Whatever the cause of this pre-natal failure or arrest of brain development may have been, there results a diminution of the numbers of the cortical neurons and almost as frequently an imperfect construction of these only partially formed neurons, with a corresponding inability to react to the environment in a normal manner. The histological thinning of the cortex is abundantly

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demonstrated in the researches of Bolton, Tredgold, and many others.

The consequence of these developmental structural errors, whether diminishing the numbers of cortical neurons, or affecting the cell bodies themselves, is that the individual passes on into adult life with an imperfectly developed brain, which is incapable of reacting to the environment in the manner regarded as normal by normal people. The latter thus regard the former as being dangerous to themselves and to society, and civilized usage demands certification as insane, but it is clear that some of these so-called lunacies are not diseases at all, but result from errors of development. To give a normal reaction to the environment, there must be a sufficiency of normally developed functioning neurons, and every mental hospital contains numerous living examples of the results of insufficiency. Many cases of so-called lunacy are, therefore, due to a partial or total cessation of brain development prior to birth, and are not the result of post-natal disease or micro-organisms.

The human brain at birth.—Assuming that pre-natal development has proceeded normally, then at birth the brain should have attained about 25% of its total adult volume. The infra-granular cortex should have developed to 82% of its adult thickness, but the inhibiting supra-granular cortex has only reached half to two-thirds of its total adult thickness (Bolton). This means that the majority of the infra-granular neuroblasts have been converted into neurons, whereas approximately only half of the supra-granular pyramidal cells have completed their development. The actual condition of the brain at birth may be shown from *camera lucida* drawings of the numbers of neuroblasts and neurons in the supra-granular cortex; from a study of the micrometric thickness of the cortical layers (Watson), and from a study of the percentage volume (Berry and Porteus). (These several methods and their results were shown upon the screen.) At birth the human brain is, therefore, in a embryonic or undeveloped state, and the newborn child is an unconscious, reflex organism. Only those neurons are fully matured which are necessary for the maintenance of life. The act of defæcation, for example, is, at first, purely reflex, automatic and unconscious, because the neurons governing the *voluntary* control of the act are, as yet, undeveloped and non-myelinated.

Brain development during the first four years of life.—During these early and important years brain development should increase rapidly, so that by the fourth birthday the volume should be about 80% of the adult size. This increment is naturally brought about by the conversion of the embryonic neuroblasts into fully functioning

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neurons and the medullation of their axons, and the necessary stimulus to the conversion is supplied by exteroceptive stimuli from many sources, particularly those of hearing and sight, and the increment chiefly affects the supra-granular cortex. If the child be totally deprived of these important incoming exteroceptive stimuli there results *idiocy from deprivation of the senses*, and there is a corresponding diminution in numbers of cortical neurons and of brain volume. If the child be deprived of only one of these stimuli, say hearing, there will be no speech, and brain volume, at least in so far as neurons are concerned, will be diminished, and this diminution in head size can often be detected by the use of calipers and percentiles of standard brain volume. That a congenital deprivation of certain exteroceptive impulses, such as sight or hearing, which play such an important part in brain education and growth, leads in many cases to an appreciable diminution in head size and cubic capacity of brain is shown by the following observations carried out in Melbourne on many hundreds of children:

13-year-old normal boys	1,352 c.c.
13-year-old deaf and dumb boys . .	1,307 c.c.
13-year-old mentally deficient boys . .	1,292 c.c.

It is therefore probable that for the correct development of brain growth during the first four years of life there must be no interference with the access to the brain of exteroceptive impulses. But unfortunately there are, in addition, quite a large number of other conditions, pathological as well as physiological, which may check, or totally arrest, the growth and development of the delicate neuroblasts and neurons, and so lay the foundations of some, at least, of those mental aberrations which, ultimately, are recognized as insanity. Among these may be mentioned encephalitis, head injuries, syphilis, tuberculosis, hookworm and many others. The general effect of these disorders during the first four years of life is to arrest the growth and development of the neuron, particularly of the pyramidal cells of the cortex, and thus that condition termed by Bolton "amentia" is produced, and this under-development or amentia is, particularly in the high-grade amentias, the unquestionable basis of many of the later developed insanities.

The brain at puberty.—From the fourth year until about the age of puberty, brain growth proceeds, in the normal, steadily and regularly along the lines of the biometrically smooth curve. But just prior to the onset of puberty, measurements, compiled from about 10,000 Australian (Victorian) boys and girls, appear to show a slight resting phase in the otherwise regular development of brain

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growth. The actual percentages of brain volume were found to be as follows:

	Boys.		Girls.
11th year .	Brain volume, 91·3%	. 88·8%.	Pre-puberty.
12th ,, .	,, ,, 0·6%	. 0·6%.	Resting.
14th ,, .	,, ,, 3·4%	. 2·2%.	Puberty.
20th ,, .	,, ,, 4·7%	. 8·4%.	Post-puberty.

Differently expressed, these figures show that by the end of the fourteenth year the brain has completed 95·3% of its adult growth in boys and 91·6% in girls, leaving 4·7% to be completed in boys and 8·4% in girls. This post-pubescent increment must be almost entirely concerned with the final development of the supra-granular pyramidal controlling cells, for the simple reason that the polymorphic infra-granular cortex is almost completely developed soon after birth. If, therefore, an adult only possesses a brain capacity of an 11- or 12-year-old child, it is a justifiable inference that his brain development has been arrested, and it is equally probable that the under-development concerns chiefly the supra-granular pyramidal-celled cortex. There are quite a large number of individuals who pass into adult life with a cerebral growth arrested at or about the 12-year-old level—that is, with an under-developed supra-granular brain of control over the animal instincts. Quite apart from other abundant scientific proofs of the statement, the American army tests, crude though they were, were equally convincing. Placed in the relatively simple environment for which their brain development is thus clearly designed, these under-developed individuals may pass through life without harm to themselves or to others. They will, however, tend to break down under the stresses of life earlier and oftener than the more normally constructed individual—that is, they are predisposed to insanity. Placed under wrong environmental conditions, such high-grade aments may become criminals, prostitutes and social pests. Two Australian examples may suffice. Deeming, the notorious Australian wife murderer, was found to have had a cubic capacity of brain of 1,358 c.c., or 18 c.c. less than the true mean capacity of brain of the normal 13-year-old schoolboy. The brain of Ned Kelly, the Australian bushranger and robber, had a cubic capacity of 1,405 c.c., or 13 c.c. less than the true mean brain capacity of a normal 14-year-old schoolboy. Of 33 criminals hanged for murder in Melbourne, only 7 had head sizes within the normal range of variation. In another criminal condemned for murder, *post-mortem* examination of the brain showed the occipital region with a shrivelled appearance and a divergence of the lobes. The supra-granular cortex was shallow, but the infra-granular cortex was increased in depth.

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Microscopic examination showed that the frontal area was particularly barren of pyramidal cells; the visuo-psychic area was reduced in thickness and its supra-granular cells were again reduced in numbers, but the infra-granular cortex was here also thicker than usual. Dr. Wilson, who made the examination, adds, "It is a scientific corroboration of my dictum, that the criminal has only the control of a child. It is due to *the natural development of the brain being arrested before birth.*" In view of more recent work and research since Wilson wrote the foregoing, the words "before birth" should here read "before puberty."

None of these examples, Deeming, Kelly, or the condemned murderer, would be accepted in modern law as "insane," because the legal conception of insanity has not yet been amended to include, even if it were thought advisable to do so, those social, rather than clinical, abnormal reactions to the environment which result from mal-developments of the brain, but there can be no room for doubt that all three were fairly gross examples of amentia or under-development of the brain.

Summary of brain development.—If brain development be arrested prior to birth, *microcephalic idiocy* is the probable result, with perhaps absence of speech, and other human attributes so pronounced as to require legal segregation.

During the first four years of life, brain volumes increase from 20% to 80%. Arrest of brain development at this stage results in some of the many clinical forms of *low-grade amentia*, which may, or may not, require legal segregation.

The remaining 20% increment may, or may not, take place. If little or none of this development occurs, some form of *high-grade amentia* results, with more or less anti-social or "insane" reactions according to the environment and the degree of the amentia. This variety of aberrant mentality is the most dangerous, as it usually passes quite unnoticed. Even to-day it is the almost invariable practice to regard all individuals who are not actually certified lunatics as being sane. The public generally refuses to recognize any inequalities in mental abilities, apart, perhaps, from a grudging and unwilling one of sanity, feeble-mindedness, and insanity. But there are many more degrees than these.

Amentia is here used to connote an under-development of cortical neurons from any cause whatsoever, in consequence of which the individual is unable to react to his environment in the manner regarded as normal. Tredgold says the brain of the ament is characterized by a numerical deficiency of cortical neurons, an irregular development of such neurons and an imperfect development of the individual cells of the cortex. He adds that the

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amount of the change discoverable by the microscope is directly proportionate to the degree of mental deficiency during life. In many cases this paucity of cells produces a decrease in the thickness of the cortical grey matter which is obvious to the naked eye—always assuming, of course, that it is looked for, which is but seldom the case.

It is quite commonly supposed that amentia only includes certain easily recognizable mental hospital types of a gross physical kind, such as idiots, imbeciles, cretins and the like. Many other forms are apparently regarded as being merely "backward," and the parents are led to believe that the child "will grow out of it"—which is seldom the case. It is the unrecognized cerebral ament who so often becomes the social menace, and his diagnosis demands special methods based on a sound neurology, a knowledge of which is not always a part of the average medical man's armamentarium. Bolton divides the amentias into two great grades, low- and high-grade amentia, and clinical experience leads one to support this classification. *Low-grade amentia* includes idiots, imbeciles, and those other cases where brain growth is largely arrested before birth. Among the *high-grade amentias*, Bolton places the moral, unstable, excited cases, recurrent cases, hysteria, epilepsy, some criminals, and so on, and these are usually the result of an arrested or partially unequal development of the brain between the ages of birth and puberty. It should not be assumed that the high-grade ament is thus only a thinly disguised mental hospital case, because this clinical division of high-grade amentia includes many others who would not legally be certifiable, though medically they would probably be the better for a temporary or permanent segregation in some institution other than the existing mental hospital. Many of these high-grade aments are not recognizable as such by the ordinary methods of medical examination, but special neurological methods can usually be relied upon for their accurate diagnosis. In all these cases, which include many criminals, quacks, paranoiacs and the like, there is either under-development, or irregular development of the cortical cells, particularly of the supra-granular pyramidal cells, with a consequent irregular or disordered reaction to the environment. These cases of high-grade amentia have certain other features in common, besides these deficiencies of pyramidal cells. They are usually developmental in origin, and there is not usually any naked-eye change visible in the cerebral cortex, though the microscope, as Tredgold has remarked, reveals some of the cellular shortage. As it is usually the inhibiting pyramidal cell layer which is at fault, the reactions to the environment are on the more animal basis of the infra-granular cortex—that is,

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uncontrolled sexual or acquisitive activities. Many of these individuals depart so far from the normal reactions of man as to leave doubts even in the minds of those not specially skilled in their diagnosis as to their sanity, hence many of the disputes in courts of law, and the difficulties of the present legal requirements of certification.

The high-grade ament of both sexes is liable, on account of his lack of pyramidal cortical neurons and lowered powers of neuronic resistance, to break down mentally, both earlier and oftener, than normal individuals, and is thus an early prospective victim of such disorders as dementia præcox, hysteria, neuroses of various kinds, and of psycho-neuroses. Some of these commoner periods of breakdown are at puberty, transference from school life to employment, periods of domestic squabbling or stress, sexual evolution, periods of financial worry, illegitimate pregnancies, abnormal menstrual disorders, abnormal parturitions, and others.

Summary of the developmental amentias.—It is clear that the word "amentia" is here used to denote a developmental state, and not a clinical syndrome. In this sense the amentias may be summarized as follows:

Clinical types.	Histological condition.
Low-grade amentia—	
Idiots.	Deficiency of cortical neurons in both the supra-granular and infra-granular cortices. The higher the clinical type, the less the numerical deficiency of brain-cells.
Imbeciles.	
Mental defectives.	
High-grade amentia—	
Morons.	Deficiency of neurons is here apparently chiefly confined to the supra-granular cortex of the pre-frontal region, but more evidence is required.
Moral, unstable cases.	A deficiency of neurons in some regions, and an excess in others.
Cranks.	
Psychopaths.	
Recurrent types.	? Amentia, *plus* dementia.
Hysteria.	
Epileptic insanity.	
Paranoia.	

Dementia or cerebral dissolution.—"It is clearly wrong," says Sir Maurice Craig, "to describe dementia as a distinct malady." Yet it would appear to be a not uncommon practice to regard dementia as a disease or a clinical syndrome, instead of a physiological

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process which may occur in every individual who lives long enough. It is merely a question of whether the individual outlives his cortical neurons (senile dementia), or whether the durability of the neuron is such that it cannot last during even the period of reproductive life, in which case we seem to regard the condition as a disease, and speak of a complex of phenomena as dementia præcox. Amentia thus denotes a feeble mind from a lack of neurons. Dementia is a state brought about by a destruction of cortical neurons, and thus again leads to a feebleness of mind. As Tredgold happily puts it, the ament has never had a banking account; the dement has become bankrupt. As thus used, the term "dementia" denotes a local death or destruction of previously fully formed neurons. It may occur in almost every human individual who lives long enough, because the durability of exceedingly delicate cells, like cortical neurons, is distinctly limited, and still more so in persons of weak heredity. Speaking very broadly, it would perhaps be better to regard dementia as pathological when it precedes sexual involution. If it does, there is usually some underlying cause which it is not always possible or easy to ascertain. Amongst these possible causes for premature dissolution of cortical neurons are heredity, amentia, alcoholism, the spirochæte (general paralysis of the insane), toxæmias, and possibly many others.

In Victoria, official figures would appear to show an increase in the numbers of the certified insane. If so, it is not impossible that this increase is due to the inability of the ament to withstand the stresses of an increasingly complex civilization. The environment is becoming altogether too severe for his insufficient and defective neurons. He breaks down, develops a precocious psychosis and thus swells the numbers in mental hospitals. Were the diagnosis of an under-developed cerebral cortex made earlier, as it now can be, the individual could be placed, under suitable laws, in the simpler environment of a segregation home or colony where he could be made happy and self-supporting.

Chromatolysis of the cell body and its effects on the mind.—In these developmental studies of mental disorder stress has so far been entirely laid upon the structural basis, because that appears to be both the most important and the most neglected. But there remain other causes for those deviations from normal reactions to the environment which are rather badly termed the insanities. Even in the individual with a fully developed nervous system, there may still result the most pronounced reactions to the environment, including many for which the law demands certification. But in these cases the cause is quite different. Physiological exhaustion of the cell body of the neuron, the result of fatigue, is a perfectly

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well-known phenomenon. The exhausted neuron cannot function properly, and there is a more or less disordered reaction to the environment. Insomnia is a physiological manifestation of this state of affairs, and the so-called puerperal insanity is another more serious example of greatly exhausted and poisoned neurons. The underlying cause is a temporary diminution in, or destruction of, the chromatin material in the cell body of the neuron, and this alteration is termed *chromatolysis*. Provided the cause of the chromatolysis be removed in time, the cell body of the neuron will recover. If it be not, the neuron will die. Many examples of cells, the actual changes in the Nissl bodies, and the effects of over-fatigue, even to destruction of the cell-body, are furnished in almost every modern laboratory and text-book.

The *causes of chromatolysis* would appear, even with our imperfect knowledge, to be very numerous, and amongst them may be mentioned toxins, the products of disease, insufficient oxygen, fevers and febrile conditions, insufficient sleep, worries, excessive strains on receptor organs and many others. When these causes of chromatolysis are persistent, the individual may pass into a stage of such completely disordered reaction to the environment as to call, under existing legislation, for certification—a matter of great difficulty, for it is clear that this group includes many of the recoverable insanities, and legal procedure is not always in harmony with scientific knowledge.

As every normal human individual of more than average longevity commences and ends his life in a state so closely simulating insanity as to be almost indistinguishable from it, its medical, public and legal conception would appear to require considerable revision. Insanity would be better termed "disordered reaction to the environment." If persons exhibiting disordered reactions to environment become dangerous to themselves or to others, a temporary or permanent segregation, in their own interests, as well as that of others, is clearly indicated.

These disordered reactions to the environment may result from the following:

1. An insufficient number of cortical neurons—that is, a developmental amentia. Such an under-development necessarily leads to an altered reaction to the environment. Every living animal is provided with a nervous system which is strictly adapted to its requirements—that is, provision is made for those reactions to the animal's environment which best adapt it to the struggle for existence. When these reactions effect their purpose, they are *normal*. When they fail to effect their purpose, they are *abnormal*. When, in man, defects of cerebral construction give reactions to the

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environment of such an abnormal character as to be noticeable, we call it insanity.

2. Actual disease of the brain-cells in a formerly normal individual, as when general paralysis of the insane follows syphilis. Here, as the cortical neurons become slowly destroyed by the spirochæte, or its products, there is a gradually increasing abnormal reaction to the environment, and the clinical condition, when sufficiently obvious, is called insanity.

3. The natural destruction of cortical neurons—that is, their gradual death, as occurs in the physiological dementia of the aged.

4. Temporary condition of "ill-health" of the cortical neurons—that is, an evanescent chromatolysis, in otherwise normal individuals, as in delirium from acute fevers, acute delirium after chloroform, delirium tremens, uræmic convulsions and other examples.

5. Any of the foregoing in combination, which are probably the commonest basal factors underlying the certifiable insanities.

Present-day conceptions of insanity, both medical and legal, present inconsistencies and errors which can be eliminated only by knowledge based on the sure foundation of structure and function. There is probably no system in the body where normal functioning is so dependent on normal structure as in the nervous system. Hence the key to the pathology of insanity lies in the study of structure quite as much, maybe more, than in that of clinical phenomena. All the phenomena presented by the functioning of the nervous system, normal and abnormal, and whether regarded as belonging to psychology, psychiatry or diseases of the nervous system, from the clinical standpoint, fall into four great groups—namely absence, diminution, perversion or exaggeration—of the functions of the three great structural divisions of the central nervous system:

Structure and function.		Phenomena.
Receptor neurons.	Sensations.	Absence.
Cortical internuncial neurons.	Thought.	Diminution.
Effector neurons.	Actions.	Perversion.
		Exaggeration.

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*Psychiatry and the Report of the Royal Commission.** The Presidential Address, Section of Psychiatry of the Royal Society of Medicine, delivered at the House of the Society on November 8, 1927. By R. LANGDON-DOWN, M.A., M.B.Camb.

THE Royal Commission on Lunacy and Mental Disorder was set up in July, 1924, to inquire into a matter of urgent public importance, that is to say:

(1) The existing law and administrative machinery in England and Wales in connection with the certification, detention and care of persons who are, or who are alleged to be, of unsound mind.

(2) The extent to which provision is or should be made in England and Wales for the treatment without certification of persons suffering from mental disorder and to make recommendations.

The immediate occasion for the appointment of the Commission was the disturbance of public opinion, including medical opinion, caused by the verdict and judgment in the Harnett case. But the time was already ripe for inquiry with a view to legislation, owing to the continued allegation of abuses by the so-called Lunacy Reform party on the one hand, and the professional claim for better facilities for early treatment of mental disorders on the other.

The Commission issued its report in July, 1926.

It sometimes happens that reports of Royal Commissions are allowed to get dusty on the shelves before any action is taken by Parliament, but this is hardly likely to be so in the present instance, seeing that it deals with many topics which demand an early solution. Moreover, the Minister of Health has stated that it is one of the matters which must engage Parliament after Christmas, and the Chairman of the Board of Control tells us that early legislation may be expected.

Presumably the proposals of the Royal Commission will be the basis of an amending Bill. It is clearly of the greatest importance that psychiatrists should understand the effect of such proposals on medical practice and on the welfare of their patients.

As to the general value of the Report there can be no question; the Commission worked carefully and thoroughly, with an active and openly receptive frame of mind. The Report is particularly

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valuable because as between the two opposing schools of Lunacy Reform it gives a decisive answer, and because on many questions of fact, which were matters of doubt and debate before it sat, it has provided an authoritative judgment. It has laid down clearly the principles which should guide the Legislature, and, in so doing, has in the main adopted the views long urged by our profession, while repudiating the contention that any substantial abuses exist. The Report completely vindicates the profession and endorses the advice it has given.

The Report contains passages which are admirable statements of opinions and which express views that have long been widely held by the profession. There are among them, however, expressions which are of vague significance and susceptible of different interpretations; it is necessary, therefore, to examine the procedure that it is suggested should be based on these, and to consider whether this procedure will in practice give the desired results.

It is necessary first to be sure what cases are to be dealt with under these proposals. In the opening paragraph under "Procedure," the Report speaks of "the classification of cases requiring mental treatment." It seems clear, however, from the context that this description does not include, or that the procedure does not apply to mental ailments which, though needing treatment, do not require the surrender of the patient's liberty. For we read that the next following provisions should be applicable to persons desiring treatment as "voluntary boarders"—a technical term implying a temporary surrender of liberty. It is highly important, from the professional standpoint, that this should be the true interpretation, and that it is not intended to compel all sufferers from minor mental ailments needing treatment to come under the procedure here outlined. "Voluntary boarders," who, as is proposed, may be received in any institution under the Act—a general hospital, a nursing home, or in single care—will be required to conform to a formal procedure, and will be notified to the Board of Control, which shall have the duty of visiting them; for those who surrender their liberty this is a proper provision, but for a large group of patients such procedure is unnecessary and unsuitable, and apparently they are not intended to come under this procedure, and rightly so. The distinction between the two classes depends upon whether their liberty is surrendered, or has to be infringed. With this proviso the proposals for voluntary boarders seem to be satisfactory and to provide a much-desired reform. Moreover, so far as they go, they provide for treatment without certification, and doubtless a very large proportion of admissions will fall under this head.

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However, in the section dealing with the involuntary case, it is proposed that patients in this class, "where there is prospect of recovery in a short time should be placed under care and treatment without recourse to full certification." It is recommended that this should be done by Provisional Treatment Order; presumably with the intention of removing the acutely felt stigma of certification, and so to make treatment for this class of case more welcome. What does the public understand by certification? The Commission recognizes that the "term is in common parlance used to refer compendiously to the whole procedure of a reception order made by a magistrate who has before him one or two certificates signed by medical practitioners, and not in its stricter and more limited sense," and frequently so uses it in the Report. To what aspect, then, of certification is it that the patients and their friends object, and whence comes the stigma? This is not easy to answer, but the usage adopted by the Commission itself indicates that it is not the medical opinion or diagnosis, but the whole procedure which invests the medical certificate with the forms of law, and which introduces the judicial representative, that makes it obnoxious. The man in the street associates the judiciary with the penal law rather than with the protection of the individual, and no doubt this gives an unpleasant flavour to the procedure. A recent experience of my own illustrates this: A parent strongly objected to his child being "placed under certificates." It became clear that he objected to the legal formalities, for though he had taken the form for certificate to his doctor and had it signed, he would not allow it to be used. Again, a German doctor, writing about the working of our law in view of proposed legislation in Germany, could not understand the apparent introduction of the penal aspect into the remedial procedure.

How does the Provisional Treatment Order, as proposed by the Commission, meet such objections on the part of the public? The procedure has to be initiated by petition to a judicial authority, accompanied by particulars, and by a single medical recommendation, the petition concluding with a statement that the patient's mental condition is such that it is "expedient for his welfare or the safety of the public that he should be detained under observation, care and treatment." If such is to be the procedure adopted to avoid the necessity for full certification and to encourage friends of patients to place them under treatment at an early stage, it seems unlikely that the hopes that have been raised will be realized. How does this differ from the present formality of certification? It bases the procedure on the signature of one doctor instead of two. This adds to the doctor's risks of subsequent

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dispute, but it does not diminish the objections, as the double medical opinion is not the point objected to.

The duty of the Justice in the matter is accentuated and elaborated. The judicial authority has to see the patient, preferably in his own home, and, whenever possible, his relatives, and in cases of doubt confer with the practitioner who made the recommendation; for these duties he is allowed seven days. If he is satisfied he may authorize detention for one month, after the expiration of which he has to be called in again to make a renewal order for a further five months.

This is in essence the repellent procedure which has in the past prevented patients from getting the early treatment which they need and which in the case of physical ailments they get without difficulty. Such a procedure is in no way calculated to approximate the treatment of mental to that of physical disorders.

It is true that the doctor's signature is attached to a "recommendation" instead of to a "certificate," but, in view of what has been said about the popular attitude towards certification, can it be supposed that styling the certificate a "recommendation" will allay these objections? Nor does it seem reasonable to hope that the Provisional Order will be more acceptable merely because it is limited to a month and is "provisional."

We are therefore led to conclude that this procedure will not be substantially different in its effect from full certification as at present understood; it will therefore carry with it the same objections and so is unlikely to succeed in removing the stigma of certification.

The apparent failure of the Commissioners to bring their proposals into harmony with the principles and objects they have laid down is explained by paragraph 107 (1) of the Report. After referring to the proposal that with an incipient or non-volitional case likely to recover quickly without recourse to certification, the detention warrant should be made without the aid of a magistrate, they state: "If we were free to consider exclusively the medical treatment of the patient we should have little hesitation in accepting this suggestion. But it is a principle of English law that the liberty of the subject may not be infringed without the intervention of some judicial authority, and we doubt whether public opinion is ready to countenance a departure from it, . . . and we have come to the conclusion, though not without reluctance, that the provisional treatment order should be made by a magistrate."

Surely a Royal Commission should attempt to guide public opinion rather than defer to its prejudices. A principle that is infringed even now in certain cases, that it is proposed to infringe

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again, that only thirty-five years ago had been infringed regularly for many years, cannot be of such a character as to tie our hands for ever if reason can be shown for altering it and adopting a more reasonable or practicable principle.

Under the present Lunacy Laws the following departures from this principle may be found:

(1) A lunatic may be detained in a workhouse for not more than fourteen days on the certificate of the medical officer of the workhouse.

(2) A relieving officer is empowered, if satisfied that it is necessary for the public safety or for the welfare of the patient, to remove him to the workhouse, where he may be detained for three days.

(3) By the accumulation of periods under different sections of the Act as much as twenty-three days may elapse before a justice is called upon to make a summary reception order.

It is not suggested that abuses have occurred owing to these extra-judicial periods of detention. There are effective safeguards which render abuses extremely unlikely.

(4) There is a period of seven days of extra-judicial detention under the existing Urgency Order; a similar period is proposed under the Emergency Order recommended by the Royal Commission.

(5) Prior to 1890 the reception order with powers of detention was made by a relative of a patient on two medical certificates without any judicial order.

A principle admitting such exceptions either is imperfectly valid, or has been wrongly stated, or has been modified by practice and hence needs re-statement.

In Scotland also this principle has been departed from, and, as Prof. Robertson tells us, without evil results or abuses. The Report states that the Commission was not unmoved by Prof. Robertson's evidence on this question. They point out that the Scottish provision for treating uncertificated cases under private care affords an "interesting precedent," and that this provision allows greater latitude than anything in English law.

It is noteworthy that during the debate on the Mental Treatment Bill in the House of Lords in 1923 Lord Buckmaster criticized that measure in these words: "I think that under proper safeguards and with proper control there ought to be greater power given than is given by this Bill for the treatment of these cases. After all, if persons are suffering from infectious disease you have power to take them away and isolate them in the interests of the general welfare of the community. I cannot help thinking that somewhat similar power might be given here."

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Lord Russell, in the same debate, said: "I share the views of the noble and learned Lord below me that these provisions really are very largely nullified by the forty-eight hours' notice under Clause 5 . . . it is perfectly true that people in this early stage are very often impatient of restraint, and if they are to have liberty to discharge themselves . . . it seems to me that the benefits of the treatment will be very largely lost. No doubt the policy of the framers of the Bill was dictated by fear of that very large and uninformed public opinion—which still thinks you are apt to throw people into dungeons filled with straw when you commit them to lunatic asylums—but I think it would be well to make some effort to inform public opinion a little more on the matter."

The clause to which these criticisms referred provided that any person received under that Bill into any institution as a boarder, on the recommendation of two medical practitioners, may at any time leave the institution upon giving seventy-two hours' notice. In agreeing that this proposal tended to destroy the utility of the Act, can it be doubted that these critics were prepared in principle to concede the right of further detention without certification if deemed necessary for treatment?

The Mental Treatment Bill proposed that recommendations for treatment of non-volitional cases should be signed *either* by a Justice of the Peace, *or* by a Minister of Religion, again threatening departure from what is now said to be an inviolable principle.

Here we find two lawyers of acknowledged pre-eminence, each of that school of political thought which claims to have special regard for liberty of the individual, prepared to go further than the proposals of the Mental Treatment Bill without recourse to the formal certification required by the Lunacy Acts, but, as Lord Buckmaster said, under proper safeguards.

It is freely admitted that safeguards are necessary. The unsatisfactory form of the proposals offered by the Report is the result of assuming that the *only proper* safeguard is the judicial authority, and of holding his intervention before treatment to be a vital and universal principle, whereas, as has been shown, this is far from being the case.

Careful consideration is needed as to the available safeguards, which are the most efficient and which are least likely to prevent successful working of the law. The Commission states—"consistently with the existence of adequate safeguards the intervention of the law should be as unobtrusive as possible." The one safeguard which tends to be to some extent illusory in practice is the intervention of the Justice; for the judicial authority is the one party

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to the procedure on whom apparently no real responsibility falls. He is immune from attacks on his conduct; yet the evidence shows that his share in the process was subjected to considerable criticism by the Commission, perhaps more than that of any other party. The Report states—"those on whom these duties fall must differ widely in experience and capacity; some may be unsuited to perform the duties assigned to them; a recently appointed Justice may be entirely without experience in these matters; others may perform them as a matter of routine. The methods pursued by the magistrate vary considerably, and this qualifies the extent to which the intervention of the Justice in any particular case can be regarded as an independent safeguard." One witness, experienced in public affairs, doubted the value of the intervention of a magistrate, and the Commission holds that the value of his intervention depends ultimately on the methods of the individual. Some magisterial witnesses had never differed from the conclusions in the medical certificate.

The real safeguards have been the vigilance and experience of the Board of Control with its machinery of reports on admission, examination of documents, inspection and personal examination, and the trustworthy and responsible way in which the medical work has been done.

The Royal Commission has vindicated the Board of Control in face of criticism that has been levelled at it. "The Commission is satisfied that the criticism is to a large extent ill-informed; they were impressed with the care and thoroughness with which the work is done and the wide scope of their activities and their vigilance." Further, they propose to entrust the board with new powers and duties, and advise an increase of staff. It may be claimed that the Board provides the most efficient safeguard, especially if strengthened as proposed. Since the report Lord Russell is reported to have said: "If the judicial authority could be dispensed with, things would no doubt go on perfectly well; the real safeguard for patients in England was the Board of Control, which consisted of well-informed people with ample powers and opportunities of inspection and control, who could perfectly well put an end to any improper detention. They were really of much more use than any judicial authority."

If the Justice is to be brought into Provisional Order procedure it would surely be better if it were only at the request of the patient, as an appeal, should he consider detention not justified. This would introduce the Justice in special cases only; naturally he would then do his duty very thoroughly, but he should be required to call in medical testimony. His function would then be more

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clearly defined, and his decision, having been invited by the patient, would be a judgment on the merits of the case.

The Report rightly urges that the Medical Superintendent of a mental hospital should be relieved as far as possible from administrative work so that he may devote himself to treatment, and that certification procedure should be simplified. Although certain recommendations contribute to the attainment of these ends, the administrative work of Medical Superintendents in connection with the Provisional Order would be much increased. The usual reports on admission would be necessary, and in most cases also the renewal order at the end of a month, involving not only medical reports, but a visit from the judicial authority who made the order. After six months a full reception order might be necessary, requiring another judicial visit and two medical certificates, for which purpose the Justice would have to see the patient and the Medical Superintendent also if he had signed one of the certificates. As many involuntary patients would presumably be admitted under this procedure, the work involved, for both the Medical Superintendent and the Justice, would be very heavy, and it is difficult to see how Justices could devote the necessary time to the work, especially if it is elaborated by conferences with doctors, visits to patients in their homes and interviews with patients' relatives. In a large hospital the Justice would be in constant attendance. The choice among four procedures proposed in the Report is likely to be perplexing.

It is easier to point out defects than to suggest a scheme which shall both avoid the objections and be practicable. But the sympathetic attitude of the Commission encourages the author to put forward a proposal which, while not being inconsistent with the principles laid down, would go beyond the recommendations of the Report in the hope of making them more effective and simpler in operation.

Patients requiring mental treatment involving restraint (except those found wandering at large, for whom some modification would be necessary) might in the first instance be dealt with either by (1) a voluntary application for treatment, or by (2) a preliminary authorization for treatment. The procedure under the first alternative would in the main follow that proposed in the Report, and need not be considered further. In regard to the second alternative, the preliminary "authorization for treatment" should be made by a relative, friend, or public official, as proposed in the Report under Emergency Procedure. This would apply to all involuntary patients as defined in the Report.

It is clear that if full certification is to be avoided, as the

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Commission hopes, the undesirable result will be that very many acute cases will be dealt with under the Emergency Procedure, as the Provisional Treatment Order will involve lengthy delays highly inappropriate to the handling of such cases. The proposed authorization should be supported by two medical opinions that the patient requires treatment for his mental condition in a place recognized for the purpose, and the admission of the patient should be reported to the Board of Control within seven days. The patient should have the right to call in a Justice if he considers he should not be under treatment. If the Justice decides, after medical advice, that the patient should continue under treatment, he would make an order.

Authorization for treatment, including such restraint of liberty as is essential, should admit only to those places contemplated under the Provisional Treatment Order, and should be valid for fourteen days, but capable of extension for six months or a year, or further periods, by a continuing or supplementary authorization; during such time all the safeguards provided for patients in such places would be in operation. If the friends and relatives consider some more formal Detention Order to be necessary, they should be able to take advantage of the full procedure of certification at either the beginning or the end of any term covered by the authorization.

There are some obvious advantages of such a procedure:

(1) It really removes need for certification where it is objected to, without losing the real safeguards against abuse, whereas the Provisional Treatment Order maintains the deterrent features while weakening the real safeguards by dropping one medical certificate.

(2) It stresses primarily the need for treatment, rather than the need for detention.

(3) It does not complicate and confuse procedure by a hopeless attempt to classify cases for this purpose by prognosis—a matter of no real significance, for the essential fact is that the patient needs prompt treatment. Nor is it of any significance to seek to differentiate the procedure according to the acuteness of the attack. An attack with acute symptoms urgently needing prompt treatment may be quite short-lived, and *vice versâ*.

(4) If the case will not recover soon, no harm is done; but it would be a hardship for both doctor and patient if a bad prognosis were a condition of full certification under the Report's proposals.

(5) Whatever the procedure, the treatment will be adjusted to the needs of the patient and will not be determined by the procedure of admission.

Should the case be so dangerously urgent as to call for instant admission, and there is no time to get two medical opinions before

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admission, the first doctor called in should state this and a second medical opinion should be obtained immediately after admission.

Should a "voluntary boarder" cease to have volition, his treatment could be continued under such an authorization. This should meet Lord Buckmaster's and Lord Russell's criticisms, which are as valid for the present voluntary boarder proposal as for those of the Mental Treatment Bill.

It is clear that this proposal is only an extension of the procedure of the present Urgency Order or the proposed Emergency Order by making its duration fourteen instead of seven days, so it cannot be that any vital principle of law or public policy is contravened; if the extended period is granted the patient may in many cases be discharged without need of authorization for further treatment, thus benefiting both the patient and his friends and saving much administrative work.

As has been pointed out under Sections 14, 20 and 24 of the Lunacy Acts, detention is now allowed for fourteen days with the possibility of extension to as much as twenty-three days before a Justice is called in. Statistics indicate that about 15% of the cases so dealt with recover within the fourteen days, and, without abuse occurring, have under the present practice escaped certification. It is doubtful if 5% would recover within the first seven days, for it is mainly in the later part of the probationary period of fourteen days that recoveries occur. It is likely that under the procedure advocated by the Report this observation and probation for fourteen days without certification will disappear and its advantages be lost. At the end of the fourteen days the authorization would be continued after opportunity for skilled observation. These suggestions are an attempt, by development of existing facilities, to give reality to the desire of the Commission that certification should be the last resort and not a necessary preliminary to treatment.. They tend to increase the responsibility of the friend, relative or official who authorizes treatment, and here something like a family council might be valuable for sharing the responsibility where necessary.

It is natural, in view of the risks to which medical practitioners are exposed in connection with mental treatment, and especially certification, that fresh proposals should be carefully canvassed from this point of view.

It would seem that the present function of the Justice in the procedure affords no protection to the certifying doctor, hence the elimination of the Justice from the procedure suggested would not add to his risks. On the contrary it would place responsibility on the relative, friend or official who gave the authorization, who

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would be exposed to attack in a way that the Justice is not, and this would to that extent relieve the doctor of his burden. If authorization were sanctioned by a family council the risk of an action at law could probably be ruled out.

But we have to consider not merely the risks of the doctor under these proposals, but the whole question of the legal position of the doctor who does anything in pursuance of the Act, and under any future amending Act.

The consensus of opinion on the gravity and injustice of the risks to practitioners is remarkable, and this is no doubt due to the fact that, if the present situation continues, doctors will more and more often refuse to expose themselves to the risks involved in the signing of certificates. If this happened the machinery provided by the law would cease to operate.

The necessity for the proper protection of the doctor who undertakes the difficult and responsible duties required by the Lunacy Act is universally admitted. It was recognized by Parliament when it introduced the section into the Act of 1890 purporting to afford such protection, however futile that may have proved.

It has been clearly reaffirmed in the Report of the Royal Commission. Having noted that "the complete co-operation of the medical profession is vital to the proper administration of the Lunacy code," and "the increasing hesitation and reluctance of medical practitioners to be concerned in the certification of lunatics," the Report goes on to say that "unless some relief is found for the situation without delay a breakdown of the system is inevitable."

Both on the Bench and privately Judges have urged further protection. In judgment on the Dill case Mr. Justice McCardie said: "A number of medical men, who had acted in perfect good faith, had been exposed to the most prolonged, harassing and costly litigation on the allegation that they had acted without reasonable care in a matter which was the most difficult, delicate and indefinite in the whole range of medical practice. It might well be that as the result of past litigation many doctors had refused and would refuse to take any part whatever in the work of certification because of the perils and anxieties of litigation which might follow. Perhaps some further protective legislation was needed."

Recently Lord Justice Sargent is reported to have said much the same, adding that "at present the risks doctors run are too great."

The *Times* strongly emphasized the need for immediate additional protection. We may, therefore, confidently look for public support in claiming further protection.

It should be remembered that risks threaten not only in the

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original certification, but that they may attach to anything done in pursuance of the Act, and the protection sought should cover all such actions.

The Report of the Royal Commission states: "It is not fair to ask doctors to perform their essential part under the menace of litigation, which even if successful may spell financial or professional ruin," and recommends "that the law should be so amended as to provide that any person in the *bonâ fide* discharge of his duties under the Act shall not be liable to civil or criminal proceedings unless he has acted in bad faith or without reasonable care, and that any proceedings taken against such a person shall be stayed upon a summary application to the High Court or a Judge in Chambers, unless the Court or Judge is satisfied that there is substantial ground for alleging that such act was done in bad faith or without reasonable care."

Such an amendment would transfer the onus of proof from defendant to plaintiff, and might possibly improve matters. In such cases the plaintiff, applying to the Judge in Chambers for permission to proceed with the action, may adduce medical testimony which the Judge might not be able to estimate at its proper value unless he had the assistance of a competent, impartial medical assessor. Without the protection of such independent medical criticism there would still be a danger of actions being allowed which should have been quashed. With this addition the proposal seems to give substantial protection, although this is not universally agreed.

It was urged before the Commission that as the detention order is made by a judicial authority on evidence supplied by the doctor in his certificate, the doctor should be granted the privileges accorded to witnesses in a Court of Law. This view, however, is open to the serious objection that, although the Justice acts judicially in making the order, he does not in fact hold a court nor is the doctor's certificate subject to the rules of evidence; in particular its author cannot be cross-examined in a court where witnesses are confronted in the presence of a Judge. Some supporters of this claim even go so far as to advocate the hearing of the question before a properly constituted court. While this would relieve the doctor of all risk, it would make the proceeding a legal and not a medical one. Moreover, it would afford no protection to medical officers of institutions making reports, etc., in pursuance of the Act, and further amendment of the law would therefore be necessary. A formal legal investigation would hardly accord with the ideals of psychiatry, and the Royal Commission itself regards this procedure as undesirable.

But there are some among us who, while not approving of a

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court for deciding on the treatment of the insane, welcome the proposal that the responsibility of the Justice should be made more real by bringing him on the scene as soon as possible, and by arranging his duties so that in fact he exercises his full judicial functions. Having seen the certified patient and the official documents and having taken the necessary evidence he pronounces his decision. In this way it is hoped to relieve the doctor of danger.

This takes little account of the welfare of the patient, the wishes of his friends, or the convenience or professional ideals of the doctor, and incidentally rules out all attempts to get rid of certification as commonly understood.

The Commission, after long and sympathetic discussion, found that this proposal would provide the "highest possible privilege, involving complete immunity, even for a medical practitioner who gave a certificate negligently or in bad faith, and that in their view the provision of absolute privilege could not be defended."

The medical witnesses were naturally unwilling to repudiate the duty of working in good faith and with reasonable care.

Since the Commission's report, however, new light has been shed upon the matter by the judgment of Mr. Justice McCardie in de Freville *v.* Dill. It was urged that Dr. Dill owed no "duty of care" to the patient he had certified, because he had never contracted with her, nor did she consent to his acting as her medical adviser. The question "was of great importance, as it stood on the threshold of such actions. It was, therefore, singular that it had not received express and clear decision from the final appellate tribunal. It would have been desirable long ago to pronounce the exact cause of action in such cases. Guided by numerous judgments and judicial dicta he felt himself bound to hold that the doctor owed the patient the duty of reasonable care. Further, he said that if he had been freed from authority he would have thought that the effective cause of the detention was the order of the Justice of the Peace and not the certificate of Dr. Dill. The balance of authority, however, in cases cited led him to hold that the doctor's certificate must be taken to be the cause of the detention. He hoped that before long the House of Lords would give a clear and final decision both on the question of the duty of care and also on the question whether the doctor's certificate was the cause of the detention."

A Judge of the High Court here suggests that the law as at present interpreted might properly be reversed, so as to lay down in these cases that, although the doctor owes a duty of care in a general medical sense, yet from the legal point of view he is entitled to claim that he owes the duty, not to the patient, but to the person who

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called him in to examine and certify the patient, in which case the patient has no ground of action. This would, no doubt, dispose of the majority of actions raised by persons who have been certified, and would at once give substantial protection against the litigious vagaries of such people, which is needed if doctors are to pursue their work in peace and safety, "without granting absolute privilege."

Moreover, if Mr. Justice McCardie is right, the cause of detention would not be the doctor's certificate but the Justice's order, or the relatives' order in an Urgency Order, or on an authorization for treatment under the proposals here outlined, whoever gave it; and the action, if any, would be against them and not against the doctor. If this position were established the doctor would be reasonably secure, especially if S. 330 of the Act were also amended.

But this is poor comfort to doctors dealing with patients to-day, for as the law stands we are governed, not by Mr. Justice McCardie's personal views, but by his official judgment, and until this is reversed by an Appeal to the House of Lords, the trouble and expense of which are almost prohibitive, the doctor's position is both hazardous and unsatisfactory.

Pending the decision of the highest court as to what the law really is and the amendment of the protective section of the Lunacy Act, it behoves the medical practitioner who signs certificates to take all possible precautions. In his certificate he can give evidence of his care, and he should keep full notes of his examination, visit, etc. He may also protect himself financially by insurance through one of the medical defence societies.

But we have a right to claim, in doing a public duty for the good of the State, that if the law is being wrongly interpreted, it should without delay be made clear, just and unequivocal.

This question should be decided forthwith, if necessary by a panel of Judges appointed by the House of Lords, as once before in regard to the McNaughton case.

There are many features in the Report which command the admiration and approval of professional opinion, the enumeration and commendation of which would be monotonous. One may refer to the summary of the present Lunacy Law. But it is nevertheless necessary to focus attention on those proposals which seem inadequate, uncertain or open to criticism. Hence I have concentrated my remarks upon the need for protection of the doctor, for clear statement of the boundary line between treatment within and without the provisions of the law; and, most important of all, for early treatment of involuntary patients without certification.

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These problems are inter-related. The law will not be transgressed when the needs of the public are satisfied within its provisions; and the desire to protect the doctor by emphasizing the function of the magistrate may conflict with the main object of freeing mental treatment from unnecessary obstacles.

These matters are of great importance to psychiatrists, and the future of the science in this country hangs on their wise solution.

I am confident that those in authority are anxious to afford due protection to the doctor; probably they also desire to solve the vexed problem of treatment without legal processes, and I hope that when the Government realizes that the Commission's proposals fail to give effect to the principles and ideals expressed in its Report, owing to the idea that one particular element in lunacy administration is unalterable, they will have the courage, as they have the power, to go beyond the halting attitude of the proposals and give effect to the progressive spirit which otherwise pervades the Report, and that if they do this Parliament will abandon prejudices and support a courageous and broad-minded policy.

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*Hallucinations and Sanity.** By Dr. M. J. NOLAN, Medical Superintendent, Down County Mental Hospital, Downpatrick.

WHEN the patient, F. E—, handed me the MSS. entitled "Hallucinations and Sanity," I recalled a paper read to this Association some ten years ago by the late Dr. Hunter Steen—a paper which Sir George Savage at the time styled as "most encyclopædic" (*vide Journ. Ment. Sci.*, 1917, pp. 328 and 437). In the course of a most instructive discussion following on it, some points were raised which are especially noteworthy. The President, Col. D. G. Thomson, reiterated his opinion of thirty years' standing, that insanity and disorder of mind are not one and the same thing: that as a hallucination is a disorder of mind, it does not follow that the person who experiences it is necessarily insane. Sir George Savage agreed in the view, and instanced in support of it the case of a man who was confined in an asylum because he heard "voices," with regard to which the patient declared, "My ideas appear to me as voices, but I know they are voices. They are not imperative to me, and they have no more influence upon my conduct than the ideas which pass through your mind have upon your conduct"—Sir George Savage had previously admitted to this

* A paper read at a meeting of the Irish Division in the Royal College of Physicians, Dublin, on November 24, 1927.

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man that he had ideas passing through his mind which he did not always act upon. Dr. Pasmore favoured the definition of a hallucination as "an autogenetic irritation of the brain, giving rise to a pseudo-sense impression." He also instanced four cases of chronic hallucinations in apparently normal persons, all of whom broke down mentally when the hallucinations became persecutory and affected their personality. He said he would have preferred the title of Dr. Steën's paper to be "Hallucinations in the Apparently Sane," not, as it was entitled, "Hallucinations in the Sane." Now I think that the title of my patient's MSS. is preferable to that of Dr. Steen or that suggested by Dr. Pasmore, as the real question of importance to us is not the hallucination *per se*, but how the hallucination is accepted by the reasoning power of the person who experiences it. There is, I venture to submit, a very subtle distinction underlying this aspect of the matter. I do not propose to enter into a consideration of the many fascinating theories as to how the hallucinatory phenomenon is brought about, nor to go into detailed classification of the various classes of hallucination; but for the purpose of clearness I may say I adopt the view that all hallucinations are essentially of mental origin, and that any subdivision of them based on physical or purely psychical causes must, of necessity, be speculative, the causes in the main being physico-psychogenic. As Warren points out, "Both sensations and ideas are central processes—one sort may very readily be mistaken for the other if its characteristics fall within the border-line territority." Now inasmuch as the blind see them and the deaf hear them, it is obvious that peripheral excitation is unnecessary for the production of hallucinations.

It is to this border-line territory, this "no-man's land," that hypnagogic hallucinations essentially belong, and it is under the title "hypnagogic" we find sane hallucinations very meagrely dealt with in our medical text-books—Maury gave them this name some sixty-six years ago. They generally occur at a time immediately preceding or immediately following sleep in normal persons. In the transitional state visual hallucinations are more frequent before deep sleep, and auditory hallucinations more frequent when awaking from it, and the phenomena may occur singly or in groups. But the term "hypnagogic" does not seem to me to correctly cover those other hallucinatory experiences which occur neither immediately before or after sleep, but when sleep is altogether absent, when there is great activity in the psychical, sensory and even motor systems, and when they are experienced by persons who otherwise exhibit abnormal psycho-sensorial disturbances. Goethe saw himself in full daylight in the open country. Handel,

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transferred by the erethism of creative musical genius, having transcribed the triumphal final notes of the Hallelujah Chorus of the Messiah from brain to score, threw up his hands and exclaimed, "I did think I did see all Heaven before me, and the Great God Himself!" There are many such hallucinatory experiences to be found in the biographies of historical people whose sanity was unquestioned, but possibly some of these expressions have no more truthful basis than the recorded death-bed utterances of illustrious personages—utterances worthy of these great ones and appropriate to the occasion, had mental and physical power to think and speak remained intact. Bianchi naïvely states, "Hallucinations were more frequent in olden time than in the present day." Possibly they are being replaced by newer fashions in "spirits" and "familiars," and other such-like media.

But the reduction in the number of sane persons who experience hallucinations may be accounted for otherwise than by a metastasis, so to speak, in the character of psycho-sensorial manifestations. At the present time the trend of thought is towards materialism, even allowing for the leavening of post-war pseudo-spiritualism. People, too, are more critically cautious in any interpretation of the unusual, and the rush of daily life leaves little time to intrigue them into that degree of introspection which, allied to strained attention—hyperprosexia—is the chief exciting factor of those phenomena.

Bearing in mind the hallucinatory experiences of Goethe and Handel, let us consider like experiences in the cases of two of my patients. One, a woman, had the rare hallucination—dictoroscopy—like Goethe, of seeing herself in full daylight, in a fairly crowded thoroughfare, wending through the wayfarers approaching in her direction. In her case the hallucination was but one of many of a persecutory type from which she suffered, and which were based on delusion. Seeing herself as she did on this particular occasion caused her much distress, as it was made to appear she was "gadding" about at a time she should have been nursing an invalid mother, and moreover she was made to appear wearing, at an unsuitable time, a blue velvet dress (her favourite colour) which she had designed and fashioned, and she was very distinctly impressed by the hue of the velvet in the bright sunshine. She saw herself as in a mirror.

I have at present a female patient who is "forced to see herself on the films" in situations of an objectionable kind. In her case she sees herself, not as in a mirror, but as a picture of herself taken against her will.

Handel's rhapsody was the transport of an artist, and was probably

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of a synæsthetic type, the audition of his composition which had been conceived in his mind determining the visual imagery of inspiring associations. A male patient told me that during the daytime, when in special states of religious excitation, he had visions of a celestial houri, and heard at the same time what he regarded as allurements uttered in some unknown tongue, but in a rhythmical crescendo. This man suffered from many other hallucinations of a persecutory type.

Dr. Steen, in concluding his exhaustive paper, summarized his deductions, or as he termed them, lessons, into five points:

1. Hallucinations *do* occur in the sane.
2. Hallucinations do not essentially differ in the sane and insane.
3. Hallucinations can be produced by toxins in the sane and insane.
4. Hallucinations can occur independently of physical changes.
5. As hallucinations occur in cases of multiple personality, a disorder of association, it is suggested all hallucinations may depend on some process of dissociation.

Now to these five points I would add a sixth:

6. Hallucinations when recognized as such, whether or not their causation is understood by those who experience them, may be regarded as sane when they are not acted on in any degree; and as insane when they are translated into action which is detrimental to those persons, or to others.

This is, I think, a very important deduction from what we know of hallucinations, more particularly from a medico-legal aspect of the subject—an aspect which seems very rarely to present itself, though disordered mental states are so frequently discussed by lawyers and others. Last week, Lord Chief Justice Hewart, at the Medical Society of London, lectured on the medical as compared with the legal view of insanity, especially as regards "impulse," but in the abstract I have seen, no reference was made to hallucination, which is possibly one of the most fertile sources of morbid impulse. And last week the foreman of a jury in England returned to the box to ask the Judge, "When is a delusion sane, and when is a delusion insane?" A query closely akin to that now considered —when is a hallucination sane, and when is a hallucination insane? It is a matter of regret that his Lordship's reply was not reported. Briefly the answer might be given, When it is irresistible, that is to say when the delusion or hallucination is translated into conduct that outrages social laws. "After all," said Lord Hewart, "the mere fact that a man thinks he is John the Baptist does not entitle him to shoot his mother." Still less should it justify his

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execution for that act if, as it may be, the man thought he was John the Baptist because the voice of God told him so, and moreover insisted on his murdering his mother in some particular way. But if his action in the matter was impulsive and there were no antecedent indications of mental disorder, and more particularly if there was an obvious motive—medical evidence goes by the board, and the wretch must hang. Any more tolerance in dealing with such cases would undoubtedly lead to abuse of the plea of irresistible impulse. The solution would be a longer period of observation before trial, for a very close examination into the mental state underlying the hallucinatory condition.

There are also, I have no doubt, many similar cases to those that come under my own notice, cases in which (*a*) rational conduct may be the outcome of abnormal hallucinations, and (*b*) irrational conduct the outcome of hallucinations.

In the first case, a man suffering from pronounced pre-senile dementia has visual and auditory hallucinations—which latter induce him to do certain things he should properly do—and in the second a man takes a certain line of conduct which is logically rational, but which he is forced to adopt on the advice of enemy "voices." In the first case the man is insane apart from his hallucinations (birds bringing him verbal messages), yet his interpretation of them determines rational conduct. In the second case, hallucinations (auditory) compel him against his better judgment to adopt a course of action which is apparently suited to the exigencies of the occasion. In the case of F. E—, life was threatened by his imaginary persecutors; if he complained of their ill-treatment to a doctor, they would take the doctor's life also—consequently he made no complaint.

Lord Hewart also asked, "If a man of abnormally jealous disposition entertains suspicions as to the chastity of his wife, and these become what it is fashionable to call an 'obsession,' and finally a fixed delusion, is he with impunity to kill her by poisoning, having done all he could to conceal the crime?" The legal verdict is that he must pay the penalty, while I venture to say the medical verdict would be that the man is insane. In any event, lifelong detention should meet the justice of the case, for is it not within common knowledge that many insane criminals conscious of their wrongdoing have endeavoured to hide their guilt?

I have often considerable difficulty in dealing with insane jealousy, and have not been satisfied in some cases that there was any truth in the charges made of unfaithfulness until I elicited obviously insane hallucinations or illusions—the former more frequently. The misconduct is seen by the patient under incredible

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circumstances—he admits that at the time he took no action whatsoever; he displayed no more emotion than if it was a picture of strangers forced on his attention, though later he resented the imaginary outrage in some insane fashion.

The two essential points in connection with hallucinations in the sane are (1) those who experience them attribute them to natural causes, the nature of which, organic or functional, they may or may not be capable of understanding. (2) The hallucinations are disregarded by them, and do not influence thought or affect action.

There is reason to think that a more thorough examination of the hallucinations of persons whose sanity is questioned in cases of testamentary and other medico-legal importance would do much to sweep away conflicting medical evidence. It is to be remembered that the cultured have more complex hallucinations. The mechanism is that of subconscious dissociation. In the investigation of these phenomena it is to be remembered that there is a normal dissociation, as well as a pathological dissociation in mental activity. When the mental processes are normal or abnormal as the case may be, passing functional faults in the one, and permanent defects in the other give rise to sane or insane hallucinations. And it must also be kept in view that these hallucinations must not, as Pear points out, be regarded as a unitory subject, since there are many subclasses of visualizers whose imagery may be separately classed according to clearness, vividness, obtrusiveness, relevance, readiness, utility, etc. Pear also stresses the importance of classification while the hallucination is still recent, as these images show distinct "structuration" round a nucleus of interest.

They are in almost all cases the outcome of brain fatigue, and they are usually recognized as such. Morton Prince holds that they are thought processes in highly developed persons, and not, as regarded by Freud, a regression to infantile thought. Mosso tells us of a dramatist who, when suffering from mental fatigue, enacted his dramas with the *dramatis personæ*, who were not only visualized by him, but he heard each one recite his part, and he called them up again and again for correction and revision whenever he deemed it necessary. But as a rule the hallucinations of the sane are comparable to snapshots of incidents, rather than to the panoramas of an older and the "movies" of the present generation; but whatever they may be—"figures," "voices," "smells," or "tastes"—they are regarded as hallucinations from some unknown but natural cause.

These brief remarks are by way of introduction to the paper entitled "Hallucinations and Sanity," by a patient, F. E—, whose

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case of paraphrenia phantastica I brought under your notice some years ago (*vide Journ. Ment. Sci.*, April, 1922, p. 163). Hallucinations, as you may remember, are a feature of that disorder, and he had visual, auditory, olfactory, kinæsthetic and sexual disturbance. All these he fully recognizes as hallucination, and believes that he is subjected to them by demons who exercise their malign powers against him, sometimes directly by unseen agencies, but more frequently persons with whom he comes in contact. Like flash-lights these hallucinations throw a lurid illumination into the dark recesses of the parasitic growth of his delusions, and reveal the paranoid continuity of the demoniac theory on which his phantasy is based.

Hallucinations and Sanity by "F. E—."

"For God's Sake, my brethren, think it possible that ye may be mistaken," said the wise, heroic and fundamentally honest Oliver Cromwell, to one of his fractious, bigoted and mudhole Parliaments. They were called to help the great Protector of English freedom at home and abroad, with their practical advice on pressing every day affairs. Instead they forced on the Tribunus Plebis the extremely uncongenial role of Dictator, by captiously picking to pieces the Instrument of Government by virtue of which they were summoned, and devising creeds to be enforced on Episcopalians and Independants alike under sanction of fine and imprisonment, endeavouring in fact to establish the universal hypocrisy and malevolence to God and man ever dear to the true spiritual children of the Jean Calvin, who outbawled Paul and outsnivelled Augustine, who was not a drunken and dissolute Roman Catholic Priest, but was the blackest demon of the Pit, that ever wrote in elegant almost classical Latin, and put skill in argument at the service of the utterly blasphemously illogical, and drove countless millions into despair and debauchery, that are the natural concomitants of that "doctrine of devils" predestination, whereby "ad majorem Dei (cujus cunque) gloriam" most creatures are destined, utterly irrespective of any wish, feeling or effort on their part (and consequently irrespective of any merit or demerit), to commit an unending succession of sins, to become progressively worse, to be damned both with disgrace and suffering eternal, to be in fact the victims of a stupendous inhuman badgering on the part of a Supreme Ruler of the Universe, compared to whom the vivisectors who cut to pieces quivering dumb animals, rendered by curari incapable of protest or struggle, but not of feeling, are kindhearted and sympathetic, in fact for whom the only possible excuse is that He is the mad Creator Preserver and Destroyer of a mad Universe.

Yet those, who hold the preposterous doctrine of combined helplessness and blameworthiness, not only walk about at liberty as if sane sincere men and women; but even claim to be extra hardheaded and farsighted; and ferocious thought-hating parrots claim to be both philosophers and philanthropists, the most encyclopædic of encyclopedistes being treated as a presumptuous ignoramus by parish jackasses, that have learnt by heart the Shorter Catechism, a dozen hymns and a score of texts, applied at rhyme and random, of jumbled Scripture. "Tis with men's minds as with their watches; no two are alike, yet each one thinks his own the best." "Moses spake with God, as a man with his friend, and perished not." Mahomed likewise—but Mahomed was born a few centuries too late and a few hundred miles too far South, and is therefore an epileptic impostor. Abraham heard voices telling him to leave his country, to sacrifice his son, to spare his son, to plead for an alien city with an irate but vacillating Jehovah. Paul saw a dazzling light from Heaven and heard a voice saying "Saul, Saul (Jehovah or Jesus, as a good Jew, would not utter his gentile name Paulus), why persecutest thou me?" John the Divine (*sic*) saw all manner of weird animals and conglomerations and catastrophes, worthy of a day of circus or a night of drink. Yet millions who devoutly believe all these and many more miracles, even more

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repulsive to the moral as well as the logical sense; sneer at or pity Romanists who believe that Jeanne d'Arc really was inspired by saints of earlier epochs to deliver France from the ferociously pious truly Christian and ultramontanely Catholic English, or Mormons, who believe in the mysteriously engraved gold plates Joseph Smith found, and Brigham Young, the greatest theocrat since Moses (that cowardly repulsive jackal Calvin can claim no position among the great, as certainly he has none among the good) exploited, or Indians who venerate the wise pious and conciliatory Kabir and Nanak; and who immure in Lunatic Asylums those who in their own day see visions and utter prophecies as dismal as Jeremiah, as gorgeous as Canticles, as bloodstained and menacing as the Apocalypse.

A wise God does not stultify himself, a kind God does not belittle and discourage His creatures, a great God does not work in a patchy hand-to-mouth miraculous fashion, remedying the imperfection of His laws by the intervention of His Providence. A "Deus ex machina" is, like telling lies, "a very present help in time of trouble," but cannot possibly be the one true God "Who is above all and through all and in all." Who has immutable laws that will in their due time, laws of matter, laws of logic and laws of ethic in concert (a concert serene and undiscordant and that knows not failure, utterly unlike the gaudy puny ephemeral concert of Europe), unerringly and with a hundred per cent exactitude "render unto every man according to his works." "For God is not slack concerning His promise (implicit in all Nature), as men count slackness; for with the Lord a thousand years are as one day." "We are not come unto Mount Sinai that quaked exceedingly; but unto the Father of Lights, with whom is no darkness nor shadow that is caused by turning."

Then where in Earth, Heaven or Hell do these voices, visions, misgivings, premonitions and so forth come from? The Authorized (by a section of the Medical Profession) Version, the Red Book, the Handbook for Attendants on the Insane, bluntly declares that delusions are due to disease or injury or misfunctioning of the brain, and that anyone, who says that insanity is due to possession or torment by evil spirits (other than those sold over a counter), shows his ignorance and superstition. Automatic unconscious cerebration is a fine formula, almost as comforting as "that blessed word Mesopotamia." Also it is very convenient for the *fiends*, whoever they are, who torture millions, and drive thousands into abnormality and Asylums for the Insane. A person, who hears or reads an encouraging or a discouraging phrase, might recall that phrase, divorced from its original context and wedded to an inappropriate ludicrous filthy or terrible new setting; but that individuals, and there are thousands of them in every country, who are striving to occupy themselves with wholesome sensible righteous ideas and occupations, should continually be pestered with filthy menacing or offensively ridiculous suggestions, without the intervention of "some power, not ourselves, that makes for unrighteousness," requires the credulity, or the smug hypocrisy, of the professional alienist. It is a fact of human life, recognized by sensible honest middle-men of all time, that beings are subject to temptation. Temptation can have three possible sources, First God—God tempted various people, either directly or by a false prophet or evil spirit directly commissioned for the purpose —at least the Old Testament says so time and again. But the New Testament has a different message; "Let no man, when he is tempted, say 'I am tempted of God,' for God tempteth no man, nor can He be tempted of any." Second—the beings own self, "But a man is tempted by his own lusts." No doubt that is the truth, but it is not by any means the whole truth nor even the main body of the truth. "No man liveth unto himself, and assuredly no man dieth unto himself." A lifelong Robinson Crusoe might have only himself to thank for any evil or foolish thoughts words or deeds, so far as his contemporaries are concerned, but even he might be overpowered by the influence of his ancestors, near or remote. A bad drop in his blood might frustrate for a whole lifetime his efforts after holiness, heroism, wisdom, or business success; or an incurably good disposition might keep a waster and a rotter brave, busy, wise and blessed with every beatitude for a whole century. But the vast majority of mankind live in circumstances in which they are continually influencing and being influenced by their fellows. Even the absent or the dead still influence us by their example, the remembrance of them, and also by their influence, unless we are to label delusionaries or fabricators countless millions in all epochs, countries, climates, nations, religions and races. The discovery and great development of wireless telegraphy and wireless

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telephony in recent years should lead any broadminded intelligent unprejudiced person (unhappily even in the most enlightened countries still only a small percentage of the population) to realize the possibility, nay the certainty of wireless telepathy, combined in some cases with wireless telephony and wireless telephoty, and its foul abuse to mislead human reason, to plunge human beings in the most abject misery, the most awful apprehensions, and the most degrading superstitions. An evil circle is created. Persons brought up in superstition, which properly includes all religion, are ready to accept as supernatural any messages, whether accompanied or not accompanied by auditory sensation, may even be on the lookout for them; and their experience of abnormal phenomena will confirm both their own belief and their friends' belief in the correctness of the poisonous myths dripped into their childish ears. Furthermore, excessive indulgence in alcoholic and other poisons, and attacks of debilitating fevers, especially malarial fever, the longrange depressant and derangeant par excellence, immensely facilitate the onset of aural, ocular, nasal and palpitory hallucinations. The victims, in Mahommedan lands run about an equal chance of being venerated as prophets or stoned to death as blasphemers, in Roman Catholic and in old-fashioned Protestant countries the more enlightened might have them consigned to Lunatic Asylums, in modern times in progressive countries only the more ignorant retrograde sections of the community still limit the possible explanations of abnormal phenomena to either Divine inspiration or to unholy trafficking with the Devil and the pendulum has swung almost as far in the opposite direction, permitting the glib denial of *any* external influence on mental patients. Because God does not directly intervene in the beyond lilliputian concerns of insignificant crawlers over a grain of dust planet; it does not follow that those crawlers do not influence each other in ways more subtle than the obvious calls on their sight hearing, tasting, smelling and feeling, less respectful of their freewill than the printed, flashed or vibrated appeal which cannot obtrude on unready subjects. "There are many Antichrists" is far nearer the truth than the fable of Ormuz & Ahriman, coequal & coeternal spirits of good & evil, ever striving for unattainable mastery. Evil telepathists are rarely, if ever, so crude as to begin with the direct suggestion of a definite worded threat, insult, cajolery or flattery. They begin with the vague *suggestion* of undefinable evil, *with sensual*, not intellectual urgings to evil courses, or to lopsided exaggerated indulgence in good courses, with bringing about a *dreamy lackadaisical slowcoachy* way of going through the daily round. If possible, they propel towards *erratic ideas* and *habits* and *gloomy views of religion*, to a *sense of impending doom*, earthly or eternal, inexorable or only avoidable by *sacrificing the things that best make life worth living* or by *doing some appalling deed*. If they can drive an individual away from the herd into the desert they can the more easily *slow down* and *half paralyse* all the *processes of thought and volition*, and produce *a condition of apprehension of listening for suggestions not made by visible companions*. The suggestions gradually become more *empathic* more *frequent* and more *definitely worded*. Should the victim take alarm, and strive to disattend to the uncanny suggestions, a *faint faraway* but *insistent ringing* is in his ears for *many seconds, even several minutes*, with *taunting* or *tantalizing or appealing voices* interjected and finally coming in a great volume of *objurgation* or *denunciation* or *prohibition*, accompanied by the most *awful bloodcurdling threats to the victim* and *all he holds dear*.

Some few honest folk, after the shock of the first few days and weeks, realize that these voices or suggestions cannot be from above, but must be a case of "Satan appearing as an angel of light," and resolutely persistently disattend to them, neither erring by doing what is suggested nor erring almost as fatally by doing the exact opposite to what is suggested, try to disparalyse their mind and solve the problems of their earthly career by their own judgment, as if they were a chess or golf player, buzzed around by a crowd of incompetent or illdisposed bystanders. But most either sink into a melancholy lethargy or any kind of violent, filthy, illnatured or ridiculous way of going on suggested by the voices, or resort to futile expedients to combat or propitiate them, *e.g.* prayer to God or to Saints, appeals to fellowhumans, appeals to the invisible tormentors, arguments with them, threats of what they will do to them, some kind of penance or magical performance, Bible-reading, hymnsinging and the like. The few wise ones, being fairly calm and rational in their conduct, get out—if their relatives like to take them out. Otherwise, sane or insane, in they stay, till in many cases they lose

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all hope and selfrespect and touch with an outside world that is changing faster and faster each generation. Because they are already cruelly hampered by incessant telepathic tormenting, therefore they must be lifelong prisoners along with the filthy, the obscene, the violent, the noisy and the pestering. The awful injustice of it all does not worry alienists, since their whole system, their whole philosophy is based on the fundamental injustice of treating human beings as irresponsible semi-automatons, the prey of their instincts and their delusions, and not as men and women, tremendously hampered, no doubt, by inherited passions, ignorance and false teaching, but still mainly capable of being influenced by rewards and punishments, and sometimes by reasoning.

Lectures in hygiene, physiology, psychology and logic should be given in all Asylums to all fairly quiet intelligent patients. On the contrary, the tendency is to treat thought as dangerous, doctors thus showing their obscurantist affinity to clergyman, to discourage all reading except the lightest and most frivolous books and magazines, and to assign to the patients, yokels and scholars alike, tasks of unskilled labour in field and garden and kitchen and corridor and laundry. "Laborare est orare" is not true. Prayer is foolish and wrong. Work is useful and beneficial. But unskilled work is not very useful nor very beneficial, neither to the person so employed nor to the world at large. Overstudy is injurious in itself, but much more so through what it bars out; fresh air, exercise, versatility, sociability. It is a question of the degree of badness, whether no company or bad company is worse for an individual. But in Asylums decent, wellbehaved folk are herded with the vilest of the vile. Instead of a dozen galleries or villas, there should be two-score or more in an Asylum of a thousand or more. Ill-behaviour only should condemn to the refractory wards, *viz:*—violence, filthiness, noisiness, pesteringness; not, as now, independence of character, selfdefence or self-protection against violence, insult, obscenity, pestering, noise and filth. Good conduct amounting to cure, and entitling to release, should not be cajoling, flattering and slavish obsequiousness to doctors, attendants and relatives. Asylums should be fewer and larger, and the Resident Superintendent should be a retired judge with a judge's salary, and none should be admitted or discharged except after a fair trial before a judge. Then merely hearing voices, changing one's religion, disagreeing with one's relatives, stigmatising any immoral smart set, comparing oneself to reformers of the past, temporary breakdowns, would no longer be held sufficient cause for sentencing to indefinite, in many cases lifelong, imprisonment.

Bacterial Change in Mental Disorder: Coliform Group. By F. H. STEWART, M.A., D.Sc., M.D., D.P.M., Major, Indian Medical Service (retired), Cheddleton Mental Hospital.

THE literature dealing with coliform intestinal bacteria in patients suffering from mental disorder is extremely scanty. Goodall, *Journal of Mental Science*, 1927, p. 368, writes: "As regards our knowledge of the intestinal tract as a source of infection I consider that the position is still very unsatisfactory. . . . For a few years prior to 1914 my colleagues and I at the Cardiff Mental Hospital Laboratory had carried out much tedious work on the bacteriology of the fæces in states of acute melancholia and mania. An extensive survey in 1914 of all the foreign literature of importance enabled me to state that extremely little work had been done in this direction." The same author, *ibid.*, 1923, p. 421, states: "In 1914 I stated that extremely little work had been done by way of bacteriological examination of the fæces in cases of mental

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disorder. That statement may also be made in respect of the years which have since elapsed. Barton White and I (1914) examined a considerable number of stools from freshly admitted cases of melancholia (18) and mania (10). The results showed that the number of total organisms per gramme of fæces (which means, of course, more especially *B. coli*) was above the average normal figure in a large proportion of the cases. *The B. coli were typical in as high a percentage of cases as obtains for normal stools.*" (The italics are mine.) In the paper here referred to (Goodall, 1914) the author shows that in 18 cases of melancholia 4% of the coliform bacteria isolated were atypical in that they did not ferment lactose, and in 10 cases of mania 6% were atypical in the same respect. Goodall compares these percentages with Houston's (1902–3) figures for the normal stools of healthy persons, which show 8% atypical, *i.e.*, not giving acid and gas in lactose. He therefore comes to the conclusion italicized above, but it should be noted that Houston's work of 1902–3 was planned to find the highest dilution of drinking-water in which typical *B. coli* could be found, and that his technique was adapted to this purpose. His figures are, therefore, not applicable to the present subject, since they are based on the examination of only 17 stools, and of only 6 bacteria from a second culture of each stool. Four out of the 8 atypical *B. coli* described by Houston and probably most of those described by Goodall were the same as the paracolon and mutabile bacteria with which the present paper deals.

W. Ford Robertson (1921) attributes infective disorders of the intestine chiefly to streptococci and *B. proteus*; he does not mention paracolon or mutabile. The latter statement also applies to Chalmers Watson's paper (1923).

During the past five years work has been carried out in this laboratory which has been intentionally confined to the coliform bacteria. It has been found that mental disease is frequently, though not constantly, associated with an increase of two groups of these bacteria in the intestine, namely, the paracolon and mutabile bacilli. In the present paper this association will be discussed under the following headings:

(1) Do paracolon-mutabile bacilli occur in a larger number of persons in a series of mental patients than in the general community?

(2) When they do occur, are they present in larger numbers (proportionally to the other coliform bacteria) in the insane than in the sane?

(3) Are they linked with any particular form of mental disorder?

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(4) In a given patient does the number of paracolon-mutabile bacilli present bear any relation to the severity of the illness? Is it greater in acute phases and less during intermissions and at convalescence?

(5) Are paracolon-mutabile bacilli more toxic than other coliforms?

(6) Do paracolon-mutabile bacilli produce agglutinins in the serum of their carriers?

Before we begin to discuss these points it will be well to define the two subgroups in question, and to see how they are related to the more common coliforms, such as *B. coli communis* (colon sub-group), and to those related bacteria which cause well-defined disease (paratyphoid and typhoid-dysentery groups).

Paracolon-mutabile differ from the former and agree with the latter in that they do not ferment lactose. They differ from the latter in that they are not agglutinated by any specific antiserum against food-poisoning (Gärtner or Aertrycke), paratyphoid, typhoid or dysentery "species," and if a special serum is prepared by injection of a strain of paracolon or mutabile, that serum will agglutinate only the strain used and has no effect on other strains of the same organism. In this absence of specific reaction they agree with *B. coli communis* and other members of the colon sub-group (Mackie, 1913).

B. coli mutabile (Neisser, Massini, 1906) is so named because in artificial culture it regularly gives off daughter-races which cannot be distinguished from colon. Paracolon also, although rarely, gives off mutabile or colon; and colon sometimes throws mutabile or paracolon. The three forms are in fact only variants of one species. (I have brought forward evidence to show that they are Mendelian variants, of which paracolon is the homozygous dominant, mutabile the heterozygote, and colon the homozygous recessive.) Variation to paracolon-mutabile takes place if colon is grown on carbolized media; the reverse variation from paracolon-mutabile to colon takes place in lactose media only. In fact the variation consists of this—that the bacterium adapts itself to its food supply, nevertheless it is not merely a functional change, but a heritable variation which is maintained even after prolonged growth on non-lactose media, and the unmodified mother-race persists alongside the modified daughter.

Although these facts have been observed in laboratory cultures only, there is every reason to suppose that similar changes take place in the bowel in response to unknown causes.

In the following classification of the coli-typhoid bacilli the coliforms are shown as a group equivalent to *Salmonella* or typhoid-dysentery. If, however, the members of these latter are good

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species, then the whole coliform group is equivalent to one species such as *B. typhosus*. I have therefore avoided the use of the term "species" altogether.

Classification of the Coli-Typhoid Bacilli.

Supergroup coli-typhoid.—Gram-negative, highly variable bacilli and cocco-bacilli growing freely on bile-salt media. Not liquefying gelatine.

Group A: Coliform.—Form acid and gas in glucose, maltose and mannite. Do not form agglutinins common to the "section." Not specifically pathogenic.

Subgroup I: Colon.—Form acid and gas in lactose.

Section (a) *B. acidi lactici.*
„ (b) *B. coli communis.*
„ (c) *B. coli communior*, *B. pneumoniæ*, Friedländer.
„ (d) *B. lactis aerogenes.*

Subgroup II: Mutabile.—Do not ferment lactose, but regularly form daughter-races which do so.

B. coli mutabile.

Subgroup III: Paracolon.—Do not ferment lactose and do not form lactose-fermenting daughter-races (except very rarely after prolonged stimulation).

B. paracoli.

Group B: Salmonella.—Form acid and gas in glucose, maltose and mannite. Form agglutinins common to the section. Specifically pathogenic.

Section (a) *B. paratyphosus A.*
„ (b) *B. paratyphosus B.*
„ (c) *B. paratyphosus C.*
„ (d) *B. Aertrycke.*
„ (e) *B. enteritidis*, Gärtner.
? *B. Morgani.*

Group C: Typhoid-Dysentery.—Form acid in glucose. Form agglutinins common to the section. Specifically pathogenic.

Section (a) *B. dysenteriæ*, Sonne.
„ (b) *B. dysenteriæ*, Flexner.
„ (c) *B. typhosus.*
„ (d) *B. dysenteriæ*, Shiga.

(1) Do paracolon and mutabile bacteria occur in a larger number of persons in a series of mental patients than in the general community?

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In a series of 199 patients in this hospital, 58, or 29%, carried paracolon or mutabile, or both (Table II). In a second series of 650 patients, 278, or 42%, contained these organisms (Table III).

TABLE I.—*Table of Sugar Reactions of the Supergroup Coli-Typhoid.*

	L	S	G	M	MN	D	LM	Gel	Ind	Phen
Coliform Group:										
B. acidi lactici	AG	o	AG	AG	AG	OV	AC	o	+	o
B. coli communis	AG	o	AG	AG	AG	AG	AC	o	+	o
B. coli communior	AG	AG	AG	AG	AG	AG	AC	o	+	o
B. lactis aerogenes	AG	AG	AG	AG	AG	OV	AC	o	o	+
B. coli mutabile a	V	OV	AG	AG	AG	OV	AC	o	+	o
,, ,, b	V	OV	AG	AG	AG	AG	AC	o	+	o
,, ,, c	V	AG	AG	AG	AG	AG	AC	o	+	o
,, ,, d	V	AG	AG	AG	AG	OV	AC	o	..	..
B. paracoli	o as *B. coli mutabile.*									
Salmonella Group:										
B. paratyphosus A *B. paratyphosus B*	o	o	AG	AG	AG	AG	A	o	o	..
B. enteritidis, Gärt *B. Aertrycke*	o	o	AG	AG	AG	AG	Ak	o	o	..
B. Morgani	o	o	AG	o	o	o	Ak	o	+	..
Typhoid-Dysentery:										
B. dysent., Sonne	V	V	A	A	A	o	V	o	..	..
B. dysent., Flexner	O	V	A	VA	A	O	Ak	o	o+	..
B. typhosus	o	o	A	A	A	V	Ak	o	o	..
B. dysent., Shiga	o	o	A	o	o	o	Ak	o	o	..
Various bacteria *in certæ sedis:*										
B. cloacæ	AG	AG	AG	AG	AG	o	AC	+	+	..
B. oxytocus perniciosus	AG	AG	AG	AG	AG	AG	AC	+	+	..
B. proteus vulgar.	o	AG	AG	AG	o	o	Pep	+	o	..
Zopfius zenkeri	o	o	AG	o	o	o	Ak	o	+	..

L, lactose; S, saccharose; G, glucose; M, maltose; MN, mannite; D, dulcite; LM, litmus milk; Gel, gelatine; Ind, indol; Phen, phenol. A, acid; G, gas; C, clot; V, varying by papilla-formation in which a non-fermenting race gives off a fermenting daughter-race; Ak, alkaline; o, *no change.*

TABLE II.—*Showing the Distribution of Paracolon-Mutabile in a Series of 272 Mental Patients and Convalescents.*

(*a*)	113 patients, acute, included carriers of paracolon-mutabile	36, or 31·8%.
	86 patients, chronic, included carriers of paracolon-mutabile	21, or 24·5%.
	73 convalescents included carriers of paracolon-mutabile	5, or 6·8%.
(*b*)	38 cases of acute mania, confusional insanity, or dementia præcox included carriers of paracolon-mutabile	19, or 50%.
	Same 38 cases included carriers of paracolon-mutabile above 20% of total coliforms	15, or 39·4%.

Similar statistics from healthy members of the general community are extremely scanty. Houston (1902–3, 1903–4) found paracolon or mutabile (non-lactose fermenting bacteria giving AG in glucose) in 1 out of 29 persons, or 3·5%. Morgan and Ledingham (1909) write: "During the investigation of fæces from series of normal persons, adult and infantile, one finds colourless or non-lactose colonies only in a small proportion of the cases. The predominant group, at least in normal stools, is that of the lactose fermenters."

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On the other hand they add—"Groups X, XII, XIV" (paracolon) "are common frequenters of normal and adult stools."

In this laboratory we have not as yet succeeded in getting sufficient observations on healthy persons, but such as we have show paracolon-mutabile in not more than 10%. Also these bacteria are entirely absent from persons in rude health. Persons of sedentary habit who take little exercise in the open air and suffer from obvious intestinal stasis are those who harbour paracolon-mutabile. A valuable set of figures for our present comparison

TABLE III.—*Showing the Distribution of Paracolon-Mutabile in a series of* 650 *Mental Patients.*

	Carriers.	Carriers of over 10%.	Non-carriers.	Average % of P-M in total coliforms— among carriers.	among all cases.
650 patients	278 · 42·76%	114 · 17·53%	372 · 57·23%	15·48	6·684
119 acute adult	90 · 75·87%	42 · 35·29%	29 · 24·36%	17·54	13·265
430 chronic adult	133 · 30·93%	42 · 9·76%	297 · 69·07%	11·74	3·633
101 children	55 · 54·45%	33 · 32·67%	44 · 45·54%	21·89	12·162
Goodall's figures :					
10 acute manic	..	..	..	..	6
18 acute melancholic	..	..	..	..	4
Houston's :					
29 healthy	1	..	28	..	..
	3·5	..	96·5%	..	..
17 healthy plated direct	0	..	17	..	0

TABLE IIIB.—*Showing the Number of Carriers in Clinical Groups of the above Series.*

	Carriers.	Non-carriers.	Average % P-M to total coliform among carriers.
Acute adults :			
Dementia præcox	15	4	14·7
Typical manic-depressive insanity	7	2	28·2
Less defined mania and melancholia	58	21	17·6
Epilepsy	8	1	18
General paresis	2	1	1·8
Chronic adults :			
Dementia præcox	14	45	..
Typical manic-depressive insanity in interval	0	5	..
Less defined mania and melancholia	21	59	..
Epilepsy	13	47	..
General paresis	7	4	..
Secondary dementia	53	87	..
Post-encephalitic psychosis	5	12	..
Adult imbeciles	20	38	..
Children :			
Idiocy, imbecility, including epilepsy	55	44	..

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is derived from convalescents living under the same roof and under closely similar conditions with the patients. In a series of 73 such persons, only 5, or 6·8%, carried these bacteria (Table II).

We are therefore justified in assuming that carriers of paracolon-mutabile are at least four times more numerous among mental patients than in the general community.

(2) When paracolon and mutabile do occur are they present in higher proportion, relative to the total coliforms, in the insane than in the sane?

Table IIIB shows that nearly one-third of the manic-depressive cases carried a high proportion of paracolon-mutabile (28%).

Table III, column 4, shows the average percentage among carriers in the series of 650 patients.

The numbers dealt with by Houston are small and therefore can hardly be used for comparison. In fact the 27 specimens which were plated directly showed no paracolon-mutabile at all (1903–4). I believe that it is the experience of most bacteriologists that, in the general population, paracolon-mutabile occur in low percentage, and would be represented by only one or two white colonies on a lactose plate—say 1%. Reliable figures on a large scale are needed.

(3) Are paracolon and mutabile linked with any particular form of mental disorder?

Table IIIB shows that they are not, that carriers are fairly evenly distributed among the various clinical forms, although the average percentage of paracolon-mutabile to total coliforms is highest among the typical manic-depressive cases.

(4) In a given patient does the number of paracolon-mutabile demonstrable vary with the course of the illness? Is it greater during acute phases, and less during intermissions and at convalescence?

To answer this question two plans have been adopted: (*a*) To follow a number of patients through the course of their illness, charting the proportion of paracolon-mutabile found at regular intervals in comparison with the development of the symptoms; and for this purpose recurrent manic or confusional cases are most suitable. And (*b*) to compare series of acute with series of non-acute cases.

(*a*) Charts 1 to 5: The upper line in each instance represents the clinical state of the patient, rising with increase and falling with decrease of symptoms, the base being apparent sanity; the lower line represents the percentage of paracolon-mutabile in total coliforms.

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Charts 1 and 2 are of the same patient, F. O—, in two successive attacks of recurrent confusional insanity, and it will be seen that the two lines rise and fall together. In three subsequent attacks, however, paracolon-mutabile were found only in one or two platings out of many. In both the first and second attacks he was vaccinated against his own mutabile, but as the agglutinating power of his serum did not change, it is doubtful whether the treatment had any effect. This patient at the moment of writing is entering on still another attack and a paracolon has appeared in large numbers.

CHART 1.—*Patient F. O—. Recurrent Confusional Insanity.*

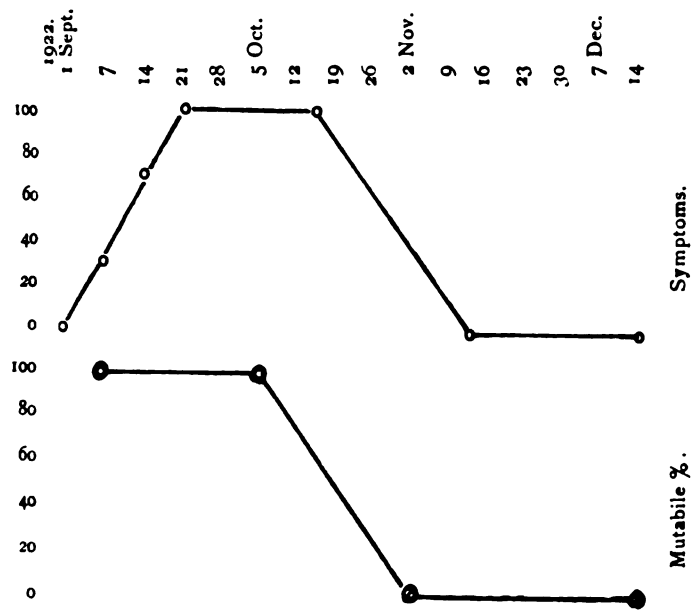

Chart 3: Confusional attack in a man with history of prolonged alcoholism and numerous previous attacks. Precipitating cause in this case also alcohol. Mutabile in the stools. *B. fæcalis alkaligenes* was also found, but is not included in the lower-line figures.

Chart 4: Recurrent confusional insanity in a mental defective. Paracolon in the stools. There was so much secondary dementia between the attacks that the upper line is never brought below the 40 level.

Chart 5: Semi-chronic mania with exacerbations. Mutabile and paracolon in the stools.

The above four patients are the only cases that have been fully worked out so far, but in order to avoid one-sided evidence it is well

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CHART 2.—*Patient F. O—. Recurrent Confusional Insanity.*

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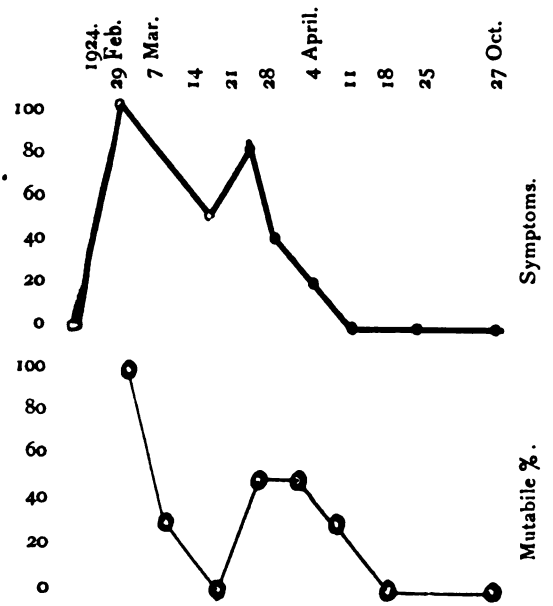
to recall that out of the series of 38 acute cases (manic, confusional, dementia præcox) to which they belong only one-half carried paracolon-mutabile, 3 carried *B. fæcalis alkaligenes* or *B. coli anaërogenes*, and 13 were without demonstrable change in their coliforms.

Tables III and IIIB show that paracolon-mutabile are nearly twice as common in acute as in chronic cases.

We may consider here the question whether increase of paracolon-mutabile is due entirely to the following causes: (i) Constipation,

CHART 3.—*Patient T. B—. Recurrent Alcoholic Confusion.*



(ii) confinement and want of exercise. Acute mental illness is (as Goodall and other writers emphasize) nearly always accompanied by constipation, therefore in the charts shown, the increase of paracolon-mutabile at the beginning of the illness undoubtedly coincides with this condition. Nevertheless paracolon-mutabile continue after the constipation has been removed, and they are often entirely absent from highly constipated stools. There is some evidence that confinement and want of exercise in the open air tend to increase paracolon-mutabile both in the sane and the insane. But, of the latter, persons who are constantly employed out of doors may still carry paracolon-mutabile in great numbers. In Chart 2 the sharp rise of the two lines on June 16 followed a game of cricket during a hot summer day.

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CHART 4.—*Patient J. W—. Recurrent Confusional Insanity in a Mental Defective.*

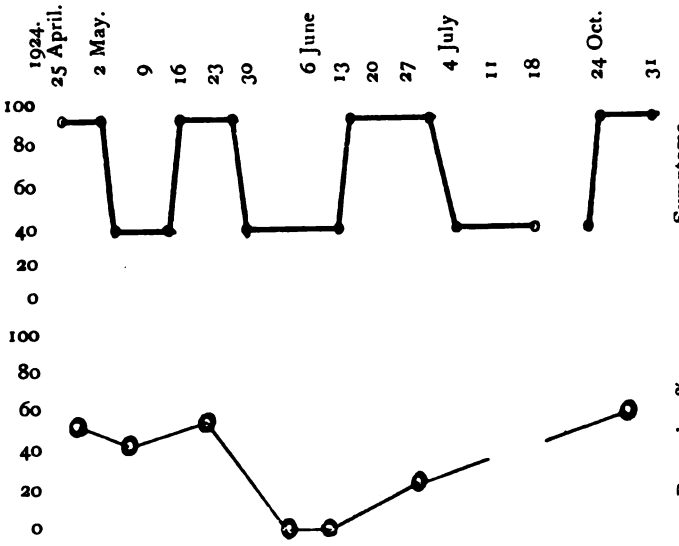
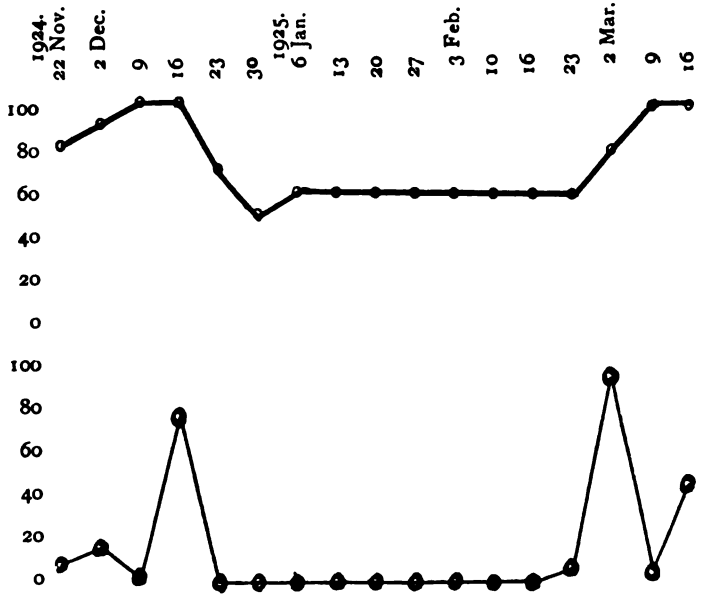


CHART 5.—*Patient F. M. G—. Chronic Mania with Exacerbations.*



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(5) Are paracolon and mutabile more toxic than colon?

To answer this question accurate dosage is necessary. Either paracolon, mutabile or colon will kill a mouse by septicæmia if a large dose (1000–5000 million) is injected hypodermically, and the organism can then be recovered from the liver, spleen or heart-blood. If, however, the dose is reduced to 0·01 or 0·02 c.c. of a 24-hour bouillon culture, then certain strains of para-colon and mutabile appear to be more toxic than colon. This dose, even if it does not kill, may cause obvious illness. Of course it is not easy to be sure whether a mouse is ill or not, but the following tests seem to be beyond cavil and they have been adopted in these experiments: (i) The mice lie for hours on the top of their cotton-wool bedding hunched up, and with coats staring and moist, while the control animals are nested. (ii) With the same appearance they eat no food for 24 to 48 hours, while the controls eat all the food given them.

TABLE IV.—*Classification of* 435 *Colonies, White on Lactose McConkey Plates, and giving AG in Glucose Peptone Water; from Patients in Cheddleton Mental Hospital, none of whom were Suffering from Acute Bodily Illness.*

(1) Paracolon	189, or 43·4%.
(2) Mutabile	187, or 42·9%.
(3) Like mutabile, but give A/Lact. within 24 hours in first subculture	6, or 1·3%.
(4) Like (3), but give AG/Lact.	31, or 7·1%.
(5) *Proteus vulgaris*	2, or 0·4%.
(6) *Zopfius zenkeri*	3, or 0·6%.
(7) *B. Morgani*	17, or 3·9%.

I believe that Groups 3 and 4 are either paracolon or mutabile which have undergone variation to lactose fermenters in the first subculture under the shock of recent isolation. They were all emphatically white on the primary lactose plates. The following observation confirms this view: Two lactose plates spread from fæces of the patient G. T— grew colonies 94% red and 6% white. Three white colonies were pricked out on to a second lactose plate; the daughter-colonies came up red. The same three white colonies gave AG in glucose peptone water. The red daughter-colonies were then sown into lactose peptone water and gave A, no G in 24 hours. These lactose peptone water cultures were then spread on lactose McConkey plates, and two quite distinct sets of colonies appeared, *viz.*, red and white. The white colonies on the primary plate were, I believe, mutabile or paracolon on the point of variation, although the facts may also be explained if we suppose that all three white colonies on the primary plate were impure. Either way—and this is the important point for the present argument—the white colonies which went red on subculture contained paracolon or mutabile. After including Groups 3 and 4 in the paracolon-mutabile figures, only groups 5, 6 and 7, representing 5% of the total, remain as a possible source of error.

Statistical.—The plate percentage of paracolon-mutabile in total coliforms is struck as explained above. The average percentage for any one person is got by adding the percentages from his successive plates and dividing by the number of plates. The percentages in Table III, column 4, are got by adding the average personal percentages of all carriers in the group and dividing by the number of carriers, and for column 5, by dividing by the number of all patients in the group.

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Table V summarizes the results of six experiments, and it will be seen that, out of 60 mice dosed with paracolon or mutabile, 3 died and 27 were obviously ill (50% positive); while 30 dosed with similar quantities of colon (*B. coli communis* and *B. lactis aerogenes*) remained well (100% negative).

It may therefore be said that paracolon and mutabile are undoubtedly more toxic than either *B. coli communis* or *B. lactis aerogenes*, but that they are nevertheless not highly virulent.

TABLE V.—*Summary of Experiments: Injection of Paracolon-Mutabile and of Colon into Mice.*

Injection (hypodermic) of 0·01 c.c. of 24-hour bouillon culture.

Paracolon-Mutabile.				Colon.		
Died.	Ill.	Not affected.		Died.	Ill.	Not affected.
0	6	0	.	0	0	3
1	5	0	.	0	0	3
2	4	6	.	0	0	6
0	6	9	.	0	0	6
3	21	15	.	0	0	18
Injection of 0·02 c.c.						
0	0	15	.	0	0	6
0	3	0	.	0	0	3
0	3	0	.	0	0	3
3	27	30	.	0	0	30

Methods, Bacteriological and Statistical.—The method adopted in this laboratory to estimate the distribution of paracolon-mutabile is as follows: A suspension of the fæces is made in sterile salt solution, the concentration being judged by eye. A few drops of this are spread on a pair of lactose McConkey plates (the primary plates), which are then incubated 24 hours. If white, non-lactose-fermenting coliform colonies are present, both the white and the red colonies are counted, and the percentage of each to the total coliform is struck. One or more colonies is then tested by Gram's stain, and complete sugar and gelatine reactions. If the sugar reactions are those of *Salmonella*, the bacterium is put up against the appropriate Oxford standard sera to exclude this group. Mutabile is distinguished from paracolon by late fermentation in lactose peptone water or by observation of red papillæ on a lactose plate.

This is the full examination, but in the large number of cases dealt with it was not possible to carry it out in all. Therefore in some of the first series and in most of the second an abbreviated scheme was adopted, as follows: When white colonies are present on the primary plates, six of them are picked off into glucose peptone water, and if they give AG they are accepted as paracolon or mutabile. They might, of course, also belong to any of the following groups: *Salmonella, B. Morgani, Proteus vulgaris, Zopfius zenkeri.* But I consider that I was justified in classing them as paracolon-mutabile in 95% of cases from experience in this laboratory of the particular kind of patient. In the first place no cases of acute bodily illness are included in the series. *Salmonella* and *B. Morgani* are thus excluded except for chronic "carriers." In the second place a series of 430 white coliform colonies from lactose McConkey plates, which gave AG in glucose peptone water, proved on full examination to belong to the classes set out in Table IV. The 430 colonies were taken from about 200 separate plates, and should, therefore, give a reliable view of the bacteria found in our patients.

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(6) Do paracolon-mutabile bacilli produce agglutinins in the serum of their carriers?

The serum of 12 carriers who were acutely ill was tested against their autogenous bacteria, but only two reacted, and then only in low dilution, namely 1/50. The same 12 sera were tested against Oxford standard bacterial emulsions. Nine were completely negative. The 3 which reacted gave the following results:

F. O— agglutinated *B. enteritidis*, Gärtner, 1/50; autogenous mutabile 1/50.

F. M. G— agglutinated *B. enteritidis*, Gärtner, 1/400; *B. typhosus* 1/300; autogenous paracolon 1/50.

F. S— agglutinated *B. typhosus* 1/40; *B. paratyphosus A* 1/200; *B. paratyphosus B* 1/65.

No history of typhoid fever or food-poisoning could be obtained in any of the three cases.

Summary.

The facts brought to light by this work may be summarized as follows:

Paracolon or mutabile are to be found in 30 to 40% of mental patients, and in 17% of these patients the bacteria in question make up from 10 to 100% of the coliform flora. Carriers of paracolon-mutabile are at least four times more common among the insane than in the general community. Paracolon-mutabile occur in all forms of insanity, but more frequently and abundantly in acute illness than in chronic. In some recurrent cases which have been closely studied they are absent or few in number during intervals, increase rapidly at the onset of an attack, fluctuate with the symptoms, and disappear at convalescence; nevertheless in one and the same patient they may be present in large numbers in one attack and absent in the next.

Paracolon-mutabile are more toxic to mice than colon.

Discussion of the factors which cause the increase of paracolon-mutabile.—The increase of these organisms is probably due to some change of environment in the bowel—a change which acts either by causing massive variation from colon to paracolon-mutabile, or by favouring overgrowth of small numbers of the latter bacteria which may already be present. The change of environment postulated may take origin either in the secretions of the host or in those of some other intestinal micro-organism. Here we have practically no data to go on; indeed the only observations bearing on the matter are the following: Several authors (*e.g.*, Massini, Baerthlein) state that the colon derived from mutabile will revert to mutabile if it is grown on media containing phenol, and Tissier,

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1923, states that *B. lactis aerogenes* and *B. aminophilus* form phenol from tyrosine in the intestinal digestion of proteins.

Turning now to the practical question *whether paracolon and mutabile take any part in producing mental disease.*

It is clear that the association which seems established between mental disease and increase of these organisms may be one of three: (1) A constitutional basis of mental disease may alter the secretions of the patient and so call out the bacterial change. (2) The increase of paracolon-mutabile may be one of many causes capable of upsetting an unstable nervous system, and we have seen that paracolon-mutabile are actually more toxic than normal colon. (3) A substance, such, for example, as phenol, if formed in the intestine may give rise to an increase of paracolon-mutabile, and after absorption cause the mental illness, and here we should recall the work of Metchnikoff, 1910, who showed that phenol combined with sulphuric and glycuronic acid is lethal to guinea-pigs, and produces arterio-sclerosis if given over long periods in sub-lethal doses. Wladytchko also found proliferation of neuroglia and neuronophagy in the brain of a guinea-pig which had been treated in this manner.

It is possible that all three modes come into play in a series of vicious circles.

I wish to express my indebtedness to Mr. W. F. Gifford for the greatest assistance in the work here reported.

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Investigation of the Permeability of the Brain Membranes in Cases of Mental Disorder. By HERBERT A. STRECKER, M.D.Würzburg (from the Laboratories of the Joint Board of Research for Mental Diseases, City and University of Birmingham).

INTRODUCTION.

The structures which separate the blood from the cerebro-spinal fluid are of considerable importance in the physiology and pathology of the brain, since they form a barrier which allows only certain substances to diffuse from the blood into the cerebro-spinal fluid. It has been found that the acute phases of certain mental and nervous diseases are associated with an alteration of the permeability of the brain membranes which form this barrier. Only recently, however, has there been any *quantitative* investigation of the relative distribution of substances in the blood and cerebro-spinal fluid; by means of this quantitative ratio the degree of deviation from the normal in various conditions of disease can be readily determined.

The following deals with the investigation of the amount of ingested bromide which passes into the cerebro-spinal fluid as compared with the concentration in the blood. This simple method of determining the permeability has been applied to the investigation of deviation from the normal in various mental diseases.

PHYSIOLOGY AND PATHOLOGY OF THE BRAIN MEMBRANES.

The epithelium of the choroid plexus has a surface area equivalent to about a square metre (Rauber-Kopsch). In conjunction with the other membranes of the brain which form the partition between the cerebro-spinal fluid and the blood it allows the passage of inorganic constituents, certain metabolic products and foodstuffs, such as urea and sugar, but more complex substances, such as albumen and colloid constituents of the blood, are incapable of penetration into the fluid.

It should be pointed out that not only the choroid plexus but the whole area of the meninges is concerned with the passage of substances to and from the cerebro-spinal fluid.

Chemical substances, when injected into the blood, do not attain the same level in the cerebro-spinal fluid; some do not penetrate at all, whereas other substances penetrate easily and become distributed between the two fluids in a definite ratio, independent of the quantity injected.

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The histological appearances of the choroid plexus and brain membranes in certain diseases, such as general paralysis, differ considerably from the normal, and in these conditions marked alterations of the permeability are also found. Behnsen has shown that there may be local differences in the permeability of the membranes of the brain to trypan blue, and also has shown that the permeability in animals decreases with age.

Substances are not likely to penetrate into the cerebro-spinal fluid in recognizable amounts unless they are present in the blood for some time and their concentration is sufficiently high; drugs which are eliminated quickly from the system, such as iodides, are not usually detectable in the cerebro-spinal fluid.

The physio-chemical condition of the substance used is of extreme importance. The membranes as a whole can be considered as semi-permeable. The cerebro-spinal fluid contains more anions and fewer cations considered in relation to the blood, and it therefore follows that anions penetrate easier into the cerebro-spinal fluid than cations.

Wittgenstein and Krebs, by injecting acid and basic coal-tar dyes intravenously into dogs, proved that *diffusive* anions penetrated comparatively readily into the cerebro-spinal fluid, but cations did not penetrate at all. They found that the following substances penetrated easily: Diffusive acid coal-tar dyes, such as uranine, chrysoline, patent blue V, æsculine, cryocyanine, orange G, light green S.F., acid fuchsin (all these are non-poisonous). Organic anions, salicylates, sulphocyanates and sulpho-ferrocyanates. Inorganic anions Cl, Br, I, NO_3, arsenic in such compounds as atoxyl, arsacetin, tryparsamide and sulpharsphenamide, are also known to penetrate, and some other substances of pharmacological importance, such as hexamine and urea and derivatives of the latter, including the hypnotic drugs veronal and dial. In contrast they found the diffusible cations did not penetrate; the basic coal-tar dyes neutral red, methylene blue, methylene green, brilliant cresyl blue, basic fuchsin, methyl green, toluidine blue, safranine, pyronine G, prune pure, trypa-flavine (all these are poisonous); *colloid* anions and cations also were quite unable to penetrate.

Many published experiments of other workers have been carried out without due regard to physiological conditions. Substances have been injected into animals in such large amounts that the mass action ensures that at least a trace shall penetrate into the cerebro-spinal fluid. Such large quantities so alter the physiological condition of the membranes as to render permeability figures unreliable. Flatau recently has made some general conclusions based upon figures which are probably fallacious, since

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they include results obtained under quite altered physiological conditions.

In the choice of a suitable anion for experimental investigation which does not materially alter the physiological condition, we are fortunate in being able to use bromide, which is capable of easy quantitative chemical detection and is closely related chemically and physiologically to the sodium chloride of the body fluids, which it can to some extent replace physiologically. It is only slowly eliminated by the kidneys, and can be found in the body-fluids a long time after administration. It has been found that in normal persons the ratio of the amount of bromide in the blood and cerebro-spinal fluid is constant and independent of the amount given and the period of administration. Details of this method are given below:

Walter's Bromide Test.

The patient is given by mouth 0·06 grm. of sodium bromide per kilogramme of body-weight each day for five days, and on the sixth day samples of blood and cerebro-spinal fluid are taken simultaneously.

To 2·5 c.c. of cerebro-spinal fluid are added 0·15 c.c. of 25% nitric acid (or 20% trichloracetic acid), and after mixing thoroughly 0·1 c.c. of 10% phospho-tungstic acid is added and the mixture shaken and filtered clear. To each c.c. of the filtrate is added 0·2 c.c. of 0·25% gold chloride solution. Blood is first allowed to clot and the serum separated. To 2 c.c. of serum are added 4 c.c. of 8% nitric acid (or 20% trichloracetic acid); the whole shaken and 0·6 c.c. of 10% phospho-tungstic acid added and then thoroughly mixed and filtered. The filtrate must be quite clear and colourless. To each c.c. of the filtrate is added 0·2 c.c. of 0·25% gold chloride solution.

A control determination with a standard solution of sodium bromide 1 : 4000 is made up with the reagents as for the cerebro-spinal fluid and a similar amount of gold chloride solution is added. The gold salt forms with the bromide a yellow to brown colour which is proportional to the amount of bromide present; by carefully matching the specimens in a good colorimeter (such as the Klett), the exact ratio of bromide in the cerebro-spinal fluid to that in the blood can be determined. It is important that the cerebro-spinal fluid should be free from blood, since the latter contains three times as much bromide.

It is not claimed that Walter's test determines the absolute amount of bromide in the fluids, since certain corrections such as the volume of the precipitates are not allowed for. It is the ratio which is important, and this ratio is determined with sufficient accuracy for all clinical purposes.

Permeability Quotient.

This is the ratio of bromide found in the blood compared with that found in the cerebro-spinal fluid, and is conveniently expressed by the abbreviation P.Q. Walter's figures show that the normal P.Q. is 3, the limits being 2·90 to 3·50. A low figure for the P.Q. indicates that the permeability is increased and *vice versâ*.

The P.Q. is found to be markedly altered in all acute cases showing mental and nervous symptoms. There is no definite relation between the altered permeability and the usual chemical and biological reactions of the cerebro-spinal fluid and blood. An abnormal permeability is not necessarily permanent.

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Results of Other Workers in Various Nervous and Mental Diseases.

General paralysis.—According to Walter about 85% of untreated cases show increased permeability (lowest P.Q. 1·65). In the remaining cases the permeability is either normal or slightly increased.

Tabes.—The permeability is usually increased (lowest P.Q. 1·85).

Syphilitic meningitis.—The permeability is markedly increased (lowest P.Q. 1·50). This may become normal again, especially after successful treatment.

Syphilis without nervous symptoms.—The permeability is normal.

Dementia præcox.—According to Jakobi and Kolle the permeability is decidedly decreased in about 36% of the cases (highest P.Q. 4·42). It is below the normal average in about 60% of the cases, although within the normal limits; only rarely is it increased.

The figures recently published by Goodall also seem to indicate that the average P.Q. tends to be higher in the schizophrenic cases.

Acute confusional insanity.—Walter found the permeability to be increased during the acute phases in all of 8 cases examined (lowest P.Q. 1·37). The P.Q. may be lower than in any other disease (including meningitis). In this condition no demonstrable changes in the cerebro-spinal fluid have been found. The permeability may return to normal in a week or so after cessation of the symptoms.

Manic-depressive insanity.—Jakobi and Kolle found that the permeability is decreased in about 17% (highest P.Q. 4·50), normal in 62%, and increased in about 21% of the cases (lowest P.Q. 2·42).

Epidemic encephalitis.—In the chronic stages the permeability is low; such cases as fall within normal limits usually show a permeability that is considerably below the average (Walter). In about 25% of the cases the permeability is undoubtedly decreased (highest P.Q. 4·69).

Arterio-sclerotic dementia.—The permeability is usually increased (lowest P.Q. 2·27). According to Walter the stage of dementia and the degree of increase are found to be approximately parallel. The factor in these cases may be the multiple lesions of the capillary vessels, since it is found that the permeability in arterio-sclerosis affecting only the large brain vessels is normal.

Results following Treatment and the Action of Drugs.

In the course of malarial treatment of general paralysis the permeability first increases and then decreases; it may revert to normal where a favourable clinical result has been obtained. Alcohol is stated by L. Stern to cause a decrease of permeability.

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Arsenic injections may cause a decrease of permeability. Drugs causing irritation of the meninges increase the permeability. According to Cestan, Riser and Laborde, injection of extract of the choroid plexus increases the permeability.

Poisoning with diphtheria toxin, tetanus toxin and tuberculin is found to increase the permeability in animals (L. Stern).

Summary of the Examination of the Permeability in Insane Patients in the Birmingham Mental Hospitals.

Twenty-two cases of general paralysis, 30 of dementia præcox and 21 other cases (including 5 cases of delusional insanity, 2 recurrent mania, 2 arterio-sclerotic dementia, 2 imbecility, 1 manic-depressive insanity) have been investigated by Walter's bromide method. The number of investigations totalled 106; we have taken 3·00–3·30 as the limits of normal permeability.

Table I.—*Total Cases Examined.*

P.Q.	General paralysis of the insane. % of cases.	Dementia præcox. % of cases.	Other cases. %.
Above normal . .	9	23	10
Normal but above average .	9	13	24
Normal	0	34	14
Normal but below average .	23	13	14
Below normal . . .	59	17	38

Table II.

Mental classification.	Highest P.Q.	Lowest P.Q.	Average P.Q.
General paralysis . .	4·02	1·95	2·79
Dementia præcox . .	4·20	2·50	3·19
Delusional insanity . .	3·40	2·63	3·02
Mania, manic-depressive insanity	4·15	2·70	3·11

P.Q. = Permeability quotient, *i.e.*, ratio of bromide in the blood to that found in the cerebro-spinal fluid.

Changes in Permeability following Treatment.

Alterations of the P.Q. are shown in Table III. The vaccine treatment consisted of 7–10 intravenous injections (0·25–5 c.c.) of T.A.B. vaccine (B. W. & Co.). This was the only treatment employed. They were investigated before treatment, and again in

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the first series within one month or less after treatment, in the second series two months or more after treatment.

The other cases were given 4–5 intravenous injections (0·15–0·4 grm.) of N.A.B., the period between the end of treatment and the second test being 1–2 months. (T.A.B. vaccine had formed part of a previous treatment some months before.)

TABLE III.—*Results following Treatment.*

Treatment.	Average P.Q.		Notes.
	Before treatment.	After treatment.	
T.A.B. vaccine .	2·83	2·72	4 general paralysis of the insane, 1 recurrent mania, 1 delusional insanity.
T.A.B. vaccine .	3·38	3·24	6 dementia præcox.
N.A.B. . .	2·39	2·90	4 general paralysis of the insane, 1 recurrent mania.

The results of 17 repeated tests in 4 treated cases are shown in Table IV. T.A.B. treatment resulted in an increase of permeability. N.A.B. treatment resulted in a decrease of permeability, which was shown by every test (excepting one).

DISCUSSION.

The permeability figures we have obtained in general paralysis are very similar to those given by Walter. The slight differences are probably due to the fact that most of our patients were under some form of treatment in contrast to Walter's. The definitely low average P.Q. indicates that an increase of permeability is an important feature of this disease. It is not yet possible to say whether a low P.Q. indicates a progressive lesion or not, although this is probable. The determination of the permeability ratio is thus a useful test in the diagnosis of general paralysis and may also prove of value in the prognosis. Our permeability figures for dementia præcox are similar to those given by other workers where the permeability is decreased, but differ from those where the percentage shows an increase of permeability. It will be noted that the average P.Q. is the highest of all the series of cases examined; however, it falls within the normal limits given by Walter. It therefore should not be generalized that in this disease the permeability is decreased. This group, however, is very indefinite in its psychiatric classification. The permeability figures obtained in mania and manic-depressive insanity agree with those of other workers.

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TABLE IV.—*Results of Repeated Tests in Treated Cases.*

Name, age, diagnosis.	Treatment.	Date of test.	P.Q.	Permeability.	Colloidal gold test.	Cells, c.mm.	W.R. Blood.	W.R. C.S.F.
J. S—, æt 39	1–10/12/25 10 inj. T.A.B.	..	..	..	..	..	..	..
General paralysis of the insane	3–31/1/26 5 ,, N.A.B.	18/2/26	2·94	..	1124441100	9	40	10
	27/4–6/5/26 10 ,, T.A.B.	20/5/26	2·42	Increased	1223432000	21	32	10
	21/5–11/6/26 4 ,, N.A.B.	15/7/26	2·40	,,	..	35	25	3
	19–27/7/26 9 ,, T.A.B.	5/8/26	2·35	,,	1123442000	3	16	4
	17/8–8/9/26 4 ,, N.A.B.	24/11/26	3·14	Decreased	5555543300	30	40	40
G. H. F—, æt. 49	3–14/4/26 6 inj. coll. calcium	15/4/26	2·49	..	5455553200	12	40	20
General paralysis of the insane	30/4–9/5/26 10 inj. T.A.B.	20/5/26	2·20	Increased	5555555330	11	16	10
	21/5–11/6/26 4 ,, N.A.B.	15/7/26	2·53	Decreased	..	14	20	5
	19–27/7/26 9 ,, T.A.B.	5/8/26	2·74	,,	5555554300	1	Neg.	13
	17/8–4/10/26 6 ,, N.A.B.	..	..	..	..	..	..	..
	11–20/11/26 10 ,, T.A.B.	17/11/26	2·68	Increased	5555544200	..	40	20
A. W. P—, æt. 29	Nov.–Dec. 25 Malaria	..	..	..	..	..	..	..
General paralysis of the insane	3–31/1/26 5 inj. N.A.B.	18/2/26	2·70	..	1224431000	8	40	5
	11–20/5/26 10 ,, T.A.B.	..	..	..	..	..	..	..
	4–25/6/26 4 ,, N.A.B.	15/7/26	2·77	Decreased	..	..	40	Neg.
	19–27/7/26 9 ,, T.A.B.	5/8/26	2·40	Increased	0124442000	1	32	1
H. S—, æt. 42	None	8/4/26	2·88	..	0001100000	5	20	Neg.
Recurrent mania	24/7–6/5/26 10 ,, T.A.B.	20/5/26	2·70	Increased	0001110000	41	4	,,
	21/5–11/6/26 4 inj. N.A.B.	15/7/26	3·08	Decreased		15	8	,,
	19–27/7/26 9 ,, T.A.B.	5/8/26	2·84	Increased	Neg.	5	Neg.	,,

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Treatment with T.A.B. is found to increase the permeability in two-thirds of the cases. A marked decrease of permeability follows N.A.B. treatment. This suggests the possibility of treatment of a case showing increased permeability with such treatment as is known to cause decrease of permeability.

It is likely that the permeability has a tendency to return to normal quite apart from treatment upon subsidence of the active disease processes responsible for the acute phase of the mental symptoms. Such disease processes, however, in some cases even when the P.Q. has returned to normal, have left behind a certain amount of dementia from which the patients do not recover. It is believed that the marked alterations in permeability, especially where it is increased, are directly responsible for the mental symptoms associated; and further study of mental change combined with the experimental determination of the permeability is much desired.

Summary.

In 22 cases of general paralysis the P.Q., *i.e.*, the ratio of bromide found in the blood compared with that found in the cerebro-spinal fluid, was below the normal average in 82% of the cases, although a few cases showed markedly decreased permeability. The average P.Q. was distinctly low.

In 30 cases of dementia præcox the P.Q. was above the normal average in 36% of the cases, below in 30%, the remainder being normal. T.A.B. vaccine treatment generally resulted in an increase of the permeability. N.A.B. treatment resulted in a definite decrease of the permeability.

The average P.Q. of 5 cases of delusional insanity and 3 cases of mania and manic-depressive insanity was normal.

I beg to express my thanks to the Director of the Laboratories, Dr. F. A. Pickworth, and to Dr. T. C. Graves, Chief Medical Officer, Birmingham Mental Hospitals Committee, for their assistance in the preparation of this paper. Dr. I. F. King, Dr. K. Sykes and Dr. J. M. Mackenzie, Assistant Medical Officers, have kindly co-operated with me and prepared the cases.

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*The Toxicity of Medinal and other Hypnotic Drugs : A Preliminary Investigation.** By D. N. HARDCASTLE, M.R.C.S., L.R.C.P., D.P.M., Physician, Moorcroft House and Hayes Park, Hillingdon, Uxbridge.

THIS paper is a preliminary account of some investigations being carried out at this hospital in regard to the possible toxicity of medinal and other hypnotic drugs, and its relationship with acetonuria and alteration of the ammonia coefficient of the urine.

"Acetonuria" is a term loosely used to indicate the presence in the urine of diacetic acid, acetone and β-hydroxybutyric acid, which condition is now more commonly referred to as "ketosis." It was formerly thought that β-hydroxybutyric acid was the mother-substance of this group and was derived from the katabolism of proteins, and that diacetic acid and acetone were decomposition and oxidation products of this mother-substance. Now it is generally held that diacetic acid is formed first from the incomplete oxidation or abnormal katabolism of fats, or of the fatty acid groups in proteins.

Hurtley has demonstrated that the liver, in an attempt at detoxication, forms β-hydroxybutyric acid from diacetic acid, which is a more saturated and less toxic fatty acid; further, acetone is said to occur in the urine when there is a disproportion between the fat and carbohydrate metabolism; this is readily seen in starvation or any conditions which result in starvation, for the store of glycogen is quickly exhausted and the body then oxidizes its store of fats. Shaw considered the occurrence of acetonuria as evidence of an acidosis, while Cammidge pointed out that acetone bodies may occur in the urine independently of any acidosis, and Thomas found that in the majority of cases of mental disorder there is no acidosis, but in a small group a slight degree of acidosis can be detected.

In the routine examination of urines I found that an abnormally large proportion of them contained "acetone," or perhaps I should say gave a positive reaction with Rothera's test, for, as Hurtley has shown, this test is more delicate for the detection of aceto-acetic acid than for acetone (for acetone I found a distinct change of colour with an acetone solution of 1 in 10,000), so I discontinued Gerhardt's ferric chloride test.

* A paper read at a meeting of the South-Eastern Division held at Moorcroft House, Hillingdon, Uxbridge, September 29, 1927.

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The technique adopted was to boil a known quantity of urine for some time; make up to the original quantity with water. In two test-tubes side by side place 2 c.c. of the boiled and the unboiled urine. Saturate with ammonium sulphate powder and add 3 drops of sodium nitroprusside solution 5%. Shake well, and then run down the side of the tube 1 c.c. of strong ammonia, noting any change of colour at the junction of the two fluids and compare the boiled with unboiled. A violet colour appears at the junction when acetone bodies are present. I found it better to mix the fluids slightly by side-to-side agitation of the tube, as this brings about a better colour reaction. There is a substance which gives a brownish-red colour, which some text-books identify with creatinin; this seems to be unchanged by boiling. By comparing the boiled with the unboiled we also avoid the difficulty of colour reactions from other drugs, such as aspirin, which patients may be taking. I endeavoured to establish a known constant for comparing colours and forming some estimate as to the percentage of acetone bodies present, but up to the present time I have not succeeded. Behre and Benedict have described a colorimetric method, using an alcoholic solution of salicylic aldehyde in an alkaline solution; the technique takes a longer time and is too complicated for our laboratory at present.

In view of the possibility of acidosis in these patients I estimated (1) the total acidity of the urine in terms of decinormal sodium hydroxide, (2) ammonia, using Malfatti's method, and (3) the urea content. From the ammonia nitrogen and the urea nitrogen I worked out the ammonia coefficient—the ammonia nitrogen is normally 5 as the urea nitrogen is 100, or the coefficient may be expressed simply as 5% normal. Ammonia plays an important part as a source of alkali in the body, as it neutralizes acid radicles, which may be excreted as ammonium salts, the urea being thus correspondingly reduced. There is evidence that in this neutralization the kidney plays an important *rôle* by breaking down urea and re-forming ammonia.

Care must be taken to have specimens which are fresh or have been preserved with thymol or camphor, to prevent the urea being broken down by the *Bacillus ureæ* into ammonium salts, which will, of course, throw out the ammonia coefficient.

Some of the patients on medinal showed acetone bodies in their urine, I selected two who most frequently showed acetone. As a control case, another patient who had not been having any drugs was put on medinal gr. xv *nocte*. Their morning specimens of urine were tested daily for acetone and the total acidity and ammonia coefficients worked out.

The control case and one of the others did not show any very striking figures, either in their total acidity or ammonia coefficients, nor was acetone found in any marked degree, so after a fortnight the observations were discontinued. Not until graphs were plotted was it apparent that the ammonia coefficient curve of the control case was at first almost a straight line, which rapidly became very irregular after the administration of the medinal (? cause and effect). Had this been apparent at the time, the observations would not have been discontinued. The other patient shows wide fluctuations

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of the ammonia co-efficient curve. He has been passing ammoniacal urine, and an infected bladder is suspected.

The third patient gave frequent acetone reactions, the total acidity and ammonia coefficient being usually higher than the normal. The patient is a voluntary boarder suffering from neurasthenia with insomnia, but with medinal gr. x *nocte* usually gets six to seven hours sleep. Twice, a very weak solution of quinine sulphate was substituted for the medinal; the results are rather amazingly shown on the graph, but here again it was not appreciated to what extent the total acidity and the ammonia coefficients had fallen until their curves had been plotted, and acetone on these two occasions was absent.

From these few observations the relationship between the taking of medinal and the presence in the urine of acetone bodies and the disturbance of the ammonia coefficient must be taken as *not proven*. However, I hope later to arrive at some definite conclusions. Another important factor which has not been overlooked but not yet investigated is that of the question of liver function.

Two other patients, both of whom were moderately acute confusional cases resulting from, or aggravated by, bacterial intoxication from infection of the urinary tract, gave high ammonia coefficients, and one of these had marked acetonuria. The coefficients fell as the confusion cleared up.

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*Surgical Emergencies in Psychiatry.** By G. W. B. JAMES, *M.C.*, M.D.Lond., D.P.M., Resident Physician, Moorcroft House, Hillingdon, Uxbridge.

I MUST crave your indulgence for this ambitious title to a very short communication. My aim is to stimulate a discussion and to probe the experiences of others.

In mental hospitals emergencies fall naturally into two groups:

(*a*) Those produced by attempts at self-destruction or self-mutilation—for example, the cut throat.

(*b*) Emergencies which arise in practice among the sane and insane alike—for example, the acute appendix.

I wish to devote a few minutes to this latter class, and to consider a few points which make these emergencies more difficult to recognize and meet when the subject is insane.

Let me begin by describing briefly how a surgical operation is dealt with at the group of hospitals you are visiting to-day. Our

* A paper read at a meeting of the South-Eastern Division held at Moorcroft House, Hillingdon, Uxbridge, September 29, 1927.

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proximity to London makes it a simple matter. A surgeon is summoned by telephone, and a second message starts a car containing a most helpful travelling unit, consisting of a sister, a nurse, an orderly, a table and a complete outfit of instruments and dressings. This unit is always ready to proceed and arrives in less than an hour. After the operation the unit packs up and returns to its base in London.

Diagnosis.

There is often little evidence of the onset of an acute surgical condition in patients from whom one is accustomed to hear day by day a reiteration of delusional and hallucinatory experience. A few years ago a medical man, aged 57, was in residence here three months, during which time he complained bitterly of infernal machines which tortured him at night, and of a widespread conspiracy to do away with him and injure his wife and family. He had twice attempted suicide as a means of escaping from his persecutors. One morning he begged me to change his attendant, who he felt was hypnotizing him and causing him great pain in the perinæum by an "electric ray." After discussion his man was changed for the day, and when I visited him at night he was easier in his mind and said the pain had gone. The following day he informed me that he knew I was directing a ray upon him, probably under orders, and that the pain had returned. It seemed to me that he looked ill, and he was put to bed. His temperature was normal, his pulse was 90. A medical friend of the patient's was called in, but a joint examination was negative. On the third day he was obviously ill, temperature 99·6° in the morning, pulse 110, the abdomen rigid, and the patient complained again of intense perinæal pain.

Acute appendicitis was suspected and a surgeon called in. Unfortunately an incision revealed a general peritonitis from a perforated and gangrenous appendix.

The importance of the perinæal pain, the malaise and rising pulse were completely overshadowed by his customary complaints of electrical interference, and valuable time was lost, with fatal result.

A change in the habits, speech or even appetite of chronic patients may be the first indication given of illness.

A paraphrenic of many years' standing, æt. 68, recently asked that bullseyes be supplied to him. A month later a marked loss of weight was noticed. Examination revealed nothing. He then began to ask for snipe for dinner, and a little later he insisted on ice cream at every meal! It was his desire for cold drinks and

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ice cream that suggested malignant trouble of the stomach. Before surgical opinion could be obtained the old gentleman sent for a doctor and begged him to give him something to stop the "jiggers" which were consuming his inside. He was put to bed in a collapsed state and died. Post-mortem examination revealed an extensive carcinomatous mass in the stomach with a small perforation as the immediate cause of his death.

One could quote many examples of patients who express pain and discomfort in neologisms or fantastic delusional terms. A patient who is still with us used to be tube-fed and believed that snakes were introduced into his body by way of the tube. One day he refused to get up, giving as his reason that "our snakes" were biting him. Later in the day vomiting became severe and it was discovered that his hernia was strangulated.

I may, perhaps, be allowed to refer to a medical case which has caused some comment in a neighbouring town. A man was admitted to hospital in a state of acute excitement. The certificate stated that he was restless and excited, shouting that the fires of hell were in his chest. He died in twenty-four hours and the *post-mortem* confirmed the diagnosis of lobar pneumonia. His loud complaint was surely justified!

The cases quoted are sufficient to illustrate the importance of considering carefully all complaints which may conceivably arise from pain, however fantastically expressed.

The help of the surgeon is very urgently required when an acute surgical emergency arises in mental hospitals. The acute abdomen in the insane will always be found to be twenty-four hours ahead of the diagnostician. Delay is dangerous enough in the sane, but may be fatal in psychiatric practice. A patient who had eaten a large meal at 2 p.m. arrived at the table at 5 p.m. in an attitude of flexion. He was sent to bed, and an hour later a diagnosis of acute appendicitis was made. At eight a gangrenous appendix, which had already perforated, was removed. Another example of the necessity for speed was provided by a male patient with a strangulated hernia. No evidence of trouble was forthcoming until he suffered from continuous vomiting. Operation was carried out as soon as possible, and the hernial gut was gangrenous and had to be removed.

The Wound.

Post-operative care is obviously more difficult in the insane than the sane. There is one point I would raise in this connection. Restlessness and interference with the dressings are so common that it is of the first importance to make the wound as secure as possible. One or two unfortunate experiences have impressed

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upon me that catgut is not suitable for suturing in mental hospital surgery. Deep stitches are best made of silk, and the skin stitching should be done with silk-worm gut. Moreover it is advisable to introduce wide sutures of silkworm gut, piercing all the layers of the abdominal wall which can be tied when the layer stitching has been completed.

The Anæsthetic.

A skilled anæsthetist once told me that "no anæsthetic ever hurt a soldier or a lunatic." I think you will all probably agree with me in disputing his statement.

Ethyl chloride does not agree with mental patients. The administration of closed ether seems unsuitable, and intrathecal anæsthesia is impossible for obvious reasons for the majority of cases. The routine method at this hospital is to give a generous dose of morphine and hyoscine half an hour before the operation, to induce with chloroform on an open mask, and continue with C_2–E_3 mixture.

Prognosis.

The question of prognosis is an uncertain one in the surgical emergencies among the insane. The unexpected often happens. In several of the cases I have cited I was able to do a blood-count before the operation. In two there was a well-marked leucocytosis —both of them being cases of appendicectomy, and both of them doing well. Another case of appendicitis which died showed a leucopenia.

A leucocytic count is a useful guide to the defensive strength of the tissues, and this is well illustrated in lobar pneumonia, in which cases with high counts do much better than cases showing a low count.

I would suggest that when there is no leucocytosis before an operation for an infective condition, a provocative injection of sodium nucleinate might be given. Gardner-Medwin reports good results in cases of pneumonia where there is a low white count. The drug provokes a leucocytosis, and an injection could not do harm.

A surgeon who has operated extensively among the insane considers the outlook unfavourable if the patient becomes sane after recovery from the anæsthesia. In twelve surgical emergencies I have collected only one patient had a sane interval. It was a lady who made a good recovery, but relapsed into her usual mental state after two or three days.

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Conclusions.

I will conclude with a summary of the points I have raised concerning surgical emergencies in psychiatry:

(1) That the onset of symptoms is often obscured by the language of insanity.

(2) That surgical aid is doubly urgent in mental cases.

(3) That security of the wound is of special importance.

(4) That ethyl chloride should not be used in inducing anæsthesia.

(5) That the presence or absence of leucocytosis is a useful guide to prognosis in acute infective emergencies.

A Series of Cases of Encephalitis Lethargica at Whittingham Mental Hospital. By B. REID, M.B., Ch.B., Senior Assistant Medical Officer, County Mental Hospital, Whittingham.

EPIDEMIC encephalitis has become an increasingly important cause of insanity among the population, and during the past few years this disease has been seen more and more among the new admissions of mental hospitals. The various forms in which this disease may manifest itself in the chronic stage are now well known, and can be intimately studied in any large institution. Up till the present, however, no account has yet been reported, so far as I am aware, of the appearance of encephalitis lethargica among patients already resident in a mental hospital.

A small outbreak of encephalitis lethargica has occurred in this institution, affecting six patients admitted some considerable time previously and limited to two adjoining wards. The patients affected were all suffering from insanity with epilepsy, except one case, a mental defective, who, however, was stated to have had fits as a child.

The differential diagnosis from such conditions as epileptic stupor and from the changes in character associated with mental disease was extremely difficult, and will always present a problem when, as in this instance, encephalitis lethargica attacks the insane.

The first case of illness occurred in May, 1924. The patient, æt. 41, complained of not feeling well, with headache and a slight evening rise of temperature. Three days later the patient began to have painful spasms of the upper abdominal walls. There was also slight nystagmus present, but no ptosis, squint or diplopia, and no other cranial nerve lesion. The patient by this time was drowsy in the day-time and sleepless at night. The lethargy became gradually more deep and profound. The painful contractions of the upper abdominal muscles were at a rate of about 30 per minute

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and lasted for several months, long after the lethargy had nearly disappeared. The patient made a slow recovery, but always remained dull and apathetic, and occasionally complained of a painful spasm of the abdominal muscles during the two years which elapsed between her illness and the appearance of the other cases.

This case is important in being the first to occur and a possible source of infection.

The second patient was attacked, two years after, on July 14, 1926, while living in the same ward and sleeping in the same dormitory as the first patient. Two more patients developed signs and symptoms of encephalitic lethargica in the adjoining ward. Both patients became ill on the same day (July 24)—the acute phase, however, lasting for only 3 or 4 days. In the same ward appeared the remaining 2 cases of the disease, the dates on which the symptoms of encephalitic lethargica probably began being September 3 and September 27. All the patients affected displayed marked lethargy, together with fever and other general and localizing nervous manifestations.

Clinical Notes of the Cases.

Case 2.—M. A. S—, æt. 51. Patient was in good health up till June, 1926. Her mental condition was one of excitement. She was garrulous, talked in an incoherent manner, and had no idea of time or place. She was noisy and troublesome, shouting and striking at those around her. Following this she became dull and apathetic, but no particular importance was given to this phase. On July 14 she had a rise of temperature to 101° F. The pulse was 100 per minute and respirations 24 per minute. There was no involvement of the respiratory, circulatory or gastro-intestinal systems. She was now extremely drowsy, lay like a log in bed, displayed marked prostration and asthenia, and could only be roused with difficulty. She slept for the greater part of the day and night. At first the patient could not be roused out of her torpor, even to answer simple questions, but gradually, after a period of months, she began to show a slight interest in her surroundings. Throughout the whole of the illness there were no definite localizing signs in the central nervous system, and it was quite impossible to ascertain from the patient the presence of any guiding symptoms, such as diplopia.

Case 3, A. A—, and Case 4, J. P—.—On July 24, two patients, A. A— and J. P—, from the adjoining ward became ill. It was found impossible to rouse either patient at 7 o'clock in the morning. The symptoms of each case were briefly as follows:

A. A—: There was profound drowsiness, lasting till the third day. There was no rise of temperature. There was marked constipation, with a very furred tongue. All the reflexes were slightly exaggerated. In addition to this there was very coarse lateral and vertical nystagmus for four days. Following on this, the patient was for some time wild and excited, and more irritable than previously, and sedatives had to be given to allay the excitement.

J. P—: The patient was extremely drowsy, and she could only with difficulty be roused out of semi-comatose state. Temperature rose to 99·8° F., there was marked constipation and a very furred tongue, together with exaggeration of the reflexes. No localizing signs could be discovered in the eyes. It is of importance that this patient was lethargic and had a slight rise of temperature at the same time as the previous patient, A. A—, who, in addition to lethargy, had nystagmus in both eyes.

Case 5.—B. M. H—. On September 3, 1926, patient had a rise of temperature

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to 104·2° F. Examination was negative. She was noisy and excited and required sedatives during the night. The temperature came down the same day to rise again on the 8th. At this time an examination showed heart, lungs and kidneys normal. There was constipation, and the tongue was very furred. The pupils were unequal in size, the right being the smaller and also irregular in shape. Both reacted to light. The knee-jerks were exaggerated on both sides, and there was a positive Babinski sign in both feet. Otherwise the nervous system was normal. On the 10th the temperature was still raised. In addition to the above signs there was now definite ankle and patellar clonus of both legs, with marked exaggeration of the reflexes. Up till this time the patient's mental condition had been one of irritability, and at times, excitement. On the 11th the patient was disinclined to talk. On the 12th she was lethargic, unable to speak or answer questions, and lay all day in a heavy listless state. This was entirely different to her usual mental condition. On the 14th the positive Babinski reflex was not so marked on the left side as previously, and on the 15th patellar clonus could not be elicited on the right side. From the 14th the patient was unable to control her evacuations. On the 17th, for the first time, there appeared a paresis of the left arm and leg, left side of the face. This gradually increased, and in two or three days was definite and severe. The left arm and left leg were flaccid at first, but later rigidity and hypertonus developed. She was still drowsy and apathetic, but now carried out orders given to her, was quiet and well-behaved, was no longer incontinent and assisted herself much better than previously. On September 30 dulness was found at the base of the left lung, and 12 c.c. of straw-coloured fluid were withdrawn. This pleurisy gradually cleared up. A slow improvement in the patient's general condion took place, but the left hemi-paresis persisted. At no time was it possible to elicit any symptoms of diplopia in the patient.

Case 6.—S. A. B—. The patient was sent to the sick ward for examination on September 27. She had been in a drowsy and apathetic condition for about three weeks previously, similar to an attack of epileptic stupor which the patient had had about a year previously. On attempting to examine her she became very excited and maniacal, and made wild, fierce clutches at those around her. Next day she was again drowsy and stuporose, and the same afternoon her temperature was 103·8° F. There was a decided squint present. The pupils were slightly unequal. There was also inco-ordination of the eye-movements, each eye showing slow movements up and down, or to each side, while the other eye remained at rest. Nothing else abnormal was found in the nervous system, and the other systems of the body showed nothing abnormal. The eye anomalies lasted for about two days. Complete apathy continued, however, for a longer period, till the patient gradually became brighter and more alert.

Laboratory Findings.

Throughout the illness of all the patients examinations were made along the following lines. The routine urine tests were done, and bacteriological examinations made of the fæces and urine. The Wassermann and Widal blood tests were also done, and also blood films taken from three of the patients. The results of this work were negative, except in Case No. 2, M. A. S—, who gave a positive Widal reaction in a dilution of 1 in 30. She, however, had had typhoid fever about five years before. Naturally most interest centred in the cerebro-spinal fluid, and this was taken for examination several times from each patient.

Cerebro-spinal Fluid Findings.

Case 1.—Clear. Ross Jones test negative; Pandy reaction very faintly positive. Sugar ·056%. Cell count 3·6 per c.mm. Wassermann negative. Lange gold sol reaction, zone II curve.

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CASE 2.—Clear. Ross Jones test faintly positive; Pandy reaction faintly positive. Sugar ·076%. Chlorides ·78%. Cell count 4 per c.mm. Wassermann negative. Lange gold sol reaction normal.

CASE 3.—Clear. Ross Jones test negative; Pandy reaction negative. Sugar ·059%. Chlorides ·74%. Cell count 2·3 per c.mm. Wassermann negative. Lange gold sol reaction normal.

CASE 4.—Clear. Ross Jones test negative; Pandy reaction negative. Sugar ·063%. Chlorides ·75%. Cell count 6 per c.mm. Wassermann negative. Lange gold sol reaction normal.

CASE 5.—Examination on September 9. Clear. Ross Jones and Pandy tests negative. Sugar ·076%. Chlorides ·75%. Cell count 2·3 per c.mm. Wassermann negative. Lange gold sol reaction normal.

Examination November 9: Clear. Ross Jones test negative; Pandy reaction faintly positive. Sugar ·074%. Cell count 1·6 per c.mm. Wassermann negative. Lange gold sol reaction, zone II curve.

CASE 6.—Clear. Ross Jones test negative; Pandy test negative. Sugar ·077%. Cell count 2 per c.mm. Wassermann negative. Lange gold sol reaction normal.

The following were the main points observed: (1) The cell count varied between 1·6 per c.mm. and 6 per c.mm. There was thus no marked pleocytosis. (2) No change in the chloride content. (3) Sugar content, calculated by the method of Folin and Wu, varied in the cases examined from ·056% to ·077%. It may here be mentioned that a series of 80 epileptic patients from the wards involved in the outbreak of encephalitis were given a routine examination of the central nervous system, in addition the cerebro-spinal fluid being withdrawn from each patient. The sugar content of the cases of encephalitis was thus compared with that of the healthy epileptics. The result of this investigation showed that the sugar content of the cerebro-spinal fluid was not definitely increased. The figures in the 6 cases of encephalitis lethargica were within the limits of the non-encephalitic patients, the average amount of sugar in the cerebro-spinal fluid being ·071%.

TREATMENT ADOPTED.

No specific remedy being available in the acute stages of encephalitis lethargica, various methods of cure were tried during this outbreak. In the first place general treatment was carried out for all the patients. In addition the following were used:

In Case No. 1.—10 c.c. of cerebro-spinal fluid were withdrawn and injected intravenously.

In *Case No.* 2.—Potassium permanganate was given *per rectum* for a short time.

In Case No. 5.—Acid sodium phosphate, gr. x, followed by hexamine, gr. x, were given three times a day.

In each case no apparent improvement was seen as the result of the drug treatment, and nursing and general measures were more relied on.

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Spread of Infection.

The following table gives the date of admission of the patients to Whittingham and the date of the onset of encephalitis lethargica.

Date of admission at Whittingham.	Date of onset of encephalitis.
June 1, 1916 . . .	May 4, 1924.
August 4, 1914 . . .	July 14, 1926.
February 11, 1921 . .	July 24, 1926.
February 7, 1923 . .	July 24, 1926.
September 29, 1924 . .	September 3, 1926.
July 14, 1919 . . .	September 27, 1926.

From the above table it will be seen that the six patients had all been in the hospital for some considerable time, and the probable sources of infection were thereby limited. From the relatives visiting the patients who became ill with encephalitis lethargica, it was ascertained that in their families no case of the disease had appeared. It is thus probable that in the 5 cases occurring in 1926 infection came from inside the institution, and suspicion naturally fell upon the patient who had encephalitis in 1924, and who has since been living in close contact with her fellow-patients. Direct case-to-case infection or contagion is therefore suggested as the mode of spread of the disease in the hospital, and it is to be noted that in 2 cases the patients had, at different times within a short period, slept at night in the same room. Up to the time of the outbreak no particular note of the sleeping arrangements had been taken. On the advice of a representative of the Ministry of Health, a plan of the dormitories concerned in the outbreak was made, with each bed numbered, and since then any change in the sleeping arrangement was recorded. A point of very great interest in the outbreak and its spread among the six patients is that all with one exception, were typical cases of major epilepsy. In addition to this fact, each patient was taking daily doses of sedative medicine, either bromide or luminal. In the experimental work of Levaditi and Harvier, who inoculated rabbits with the virus of encephalitis lethargica, it was found that the incubation period might be shortened by various narcotics—chloral, ether and chloroform. In encephalitis lethargica, hypnotics appear to increase the toxicity of the virus.

From the fact that in the outbreak at Whittingham, the patients attacked were receiving daily doses of drugs—bromide or luminal, depressant in their action on the central nervous system, the following theory is put forward. That the spread of encephalitis

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lethargica occurs among individuals with lowered or depressed condition of the central nervous system.

None of the cases proved fatal, all making a gradual recovery without leaving any bodily signs of involvement of the central nervous system, except in one patient, No. 5, who in the course of the illness developed an increasing paresis of the left side of the body of an upper motor neurone type, which still remains.

Mentally, three of the patients, formerly noisy and turbulent, are now much quieter and more amenable, one shows increased apathy and languor, and the two remaining patients show no change. With regard to the epileptic seizures, it may be said that there has been practically no difference in the number of fits before and after the onset of encephalitis.

In this investigation I have had the valuable assistance of the Medical Officer of Health for Lancashire, the Deputy Medical Officer of Health for Lancashire, and the Medical Officer of Health for Preston. Later a representative of the Ministry of Health was invited to see the patients, and in each case confirmation of the diagnosis was given.

I am indebted to Dr. R. M. Clark, Medical Superintendent, for permission to publish these cases, and to Mr. A. H. Faun, Chief Laboratory Assistant, for his valuable assistance.

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*Cardiac Infarction.**

By T. Wishart Davidson, M.B., D.P.M., Assistant Medical Officer and Pathologist, City Mental Hospital, Humberstone, Leicester.

Cardiac infarction follows disease or occlusion of the coronary arteries. In 90% of cases it is due to atheroma with final occlusion by thrombosis; embolism accounts for the remainder. The records of the last one hundred *post-mortem* examinations on patients over forty-five years of age at the City Mental Hospital, Leicester, indicate that marked coronary sclerosis or atheroma with more or less occlusion occurred in 23 cases—11 males and 12 females. In 5 the occlusion was almost complete, with fibroid degeneration of the myocardium, whilst in 2 cases, those to be described, occlusion was complete and followed by infarction.

* A paper (with demonstration) read at a meeting of the Northern and Midland Division held at Nottingham, October 27, 1927.

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The left coronary is the vessel more commonly occluded, particularly the anterior descending branch. Thayer (1) states that the coronary arteries are not strictly "end-arteries," and Gross (2) considers that collateral circulation increases as age advances.

CASE 1.—J. H—, male, æt. 55, shoe-hand, admitted in June, 1901, in a condition of acute excitement with hallucinations. He slowly demented, and became a useful worker, leading an active life. No history of syphilis. In August, 1925, heart was found to be enlarged and there was a soft mitral systolic murmur and occasional extra-systoles. Lungs were clear. On November 13, 1925, he was in bed for a few days with bronchitis and slight œdema of feet and legs; no albuminuria. He was soon up and about again, working away as usual. On December 26, 1925, he went out for the half-day, returned in the evening and complained of not feeling well. He went to bed, slept for an hour, and at 10 p.m. he got out of bed, went to the commode, collapsed, and died at 10.3 p.m.

Post-mortem.—Heart greatly hypertrophied, weight 28½ oz.; pericardium adherent over apex. The lower half of the left ventricle was ballooned out, the result of aneurysm formation; this dilatation was big enough to contain a golf ball. Anterior part of dilatation was fibrous and showed areas of thrombosis and recent hæmorrhage; remainder of the aneurysm was fibrous with calcareous deposit. Small patches of atheroma in ascending aorta and inside the mouth of the left coronary artery. Complete occlusion of anterior descending branch of left coronary artery for a distance of 2 cm. Myocardium brownish and soft.

Microscopically: Atheroma of coronary artery with organized thrombus; abundant fibrous tissue, calcareous deposit and scanty muscle-fibres in wall of aneurysm. Kidneys showed chronic interstitial nephritis.

There was no history of any illness or complaint by patient to indicate coronary occlusion, yet extensive infarction had occurred. The infarct had undergone softening and been replaced by fibrous tissue which had stretched, producing aneurysm of the heart. Extensive calcareous deposit had occurred later, and judging from this the patient must have carried on with a damaged heart for some considerable time, possibly years, until he presented signs of temporary heart failure in November, 1925, from which he apparently recovered, but which was followed by sudden death in December, 1925. Calcification of the infarct is a rare occurrence. Scholz (3) describes a case where there was a calcified cup at the apex. In Gibson's (4) collection of forty-three cases of cardiac infarction there is no example of calcification.

CASE 2.—E. M—, female, æt. 65. Insanity with epilepsy. Wassermann negative. On admission, heart-sounds soft and faintly heard; fatty degeneration diagnosed. On May 14, 1926, she complained of pain in chest, vomited, and breathing was embarrassed. Later temperature rose to 101° F.; pain in chest was acute, dyspnœa marked, extreme congestion. Fever continued for six days and the pain and dyspnœa slowly passed off. Patient apparently recovered and remained well until June 22, 1926, when she again complained of acute cardiac pain. There was fever, dyspnœa and facial congestion. On June 27, 1927, there was sudden syncope and death.

Post-mortem.—Heart enlarged; 17 oz. Over two pints of blood in pericardial sac; clot wrapped round heart. Pericardium adherent at apex and anterior surface of right and left ventricles. Round edges of pericardial adhesions blood oozed on pressure from heart cavity. Infarction in apex of left ventricle, with laminated thrombus formation in left ventricular chamber. Left coronary artery thrombosed for 2·5 cm.

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Microscopically: (1) Infarct; muscle-fibres necrotic; bands of white fibrous tissue replace the dead muscle-fibres. (2) Coronary artery: "Signet-ring" atheroma with final occlusion by thrombosis; organization of thrombus taking place.

Commentary.

There were no marked signs of cardiac disease until the coronary occlusion occurred, when there was the sudden onset of acute pain over heart, dyspnœa, vomiting and fever lasting ten days. There was apparent recovery for a period of four weeks, during which patient was up and about. Meantime ischæmic necrosis had occurred with protective pericardial adhesions—protective for four weeks until stretching of the infarct occurred, with bleeding into the softened tissue through to the pericardial sac along the line of adhesions, resulting in hæmopericardium.

I am indebted to the Medical Superintendent, Dr. J. Francis Dixon, for permission to describe the above cases.

References.—(1) Thayer, W. S., *Intern. Clinics*, Philad., 1923, series 33, i, pp. 1–26.—(2) Gross, L., *Blood Supply of Heart*, New York, 1921.—(3) Scholz, T., *Arch. of Int. Med.*, 1924, p. 34.—(4) Gibson, A. G., *Lancet*, December 19, 1925.

Clinical Notes and Cases.

*Classical Mental Symptoms arising from Gross Bodily Disorders: A Record of Five Cases.**

By E. Mildred Creak, M.B., B.S.Lond., D.P.M., Assistant Physician, The Retreat, York.

That physical changes can give rise to mental symptoms has long been established; it is only necessary to recall the delirium of an acute pneumonia.

The following cases are reported, however, not so much to further the arguments in favour of physiogenesis, but as examples of fairly true-to-type clinical pictures of mental disease, in each case of which there was proved to exist an organic condition causing a widespread interference with normal function.

The mental symptoms, with possibly one exception, were similar to those we are accustomed to associate with psychoses where no such physical disturbance can be demonstrated. In the one case which recovered, the return to normal metabolism coincided, *pari passu*, with the disappearance of mental symptoms. In none did it appear likely that there was a coincident mental illness independent of the bodily illness.

* A paper read at a meeting of the Northern and Midland Division held at Nottingham, October 27, 1927.

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Case 1.—This patient was admitted as a case of melancholia of some months' standing. This patient was a somewhat careworn business man, looking much older than his age, which was 46. He complained chiefly of sleeplessness and depression, and these symptoms had been present for over a year following an attack of giddiness. He became at times agitated, and his depression resembled the anxious type rather than true melancholia, for there was no apathy, but acute misery and hopelessness with regard to his illness. There was, however, an element of facility. He was sometimes easily amused and laughed too readily. His sleep was consistently bad, two to four hours at most, and he tended to be more depressed in the early morning. He also complained of severe headaches and of a sensation of weakness in his left side, which had been regarded as hysterical. The whole picture, taken with the depression, was like that of an anxiety state.

On the physical side, however, definite signs of a left hemiparesis, certainly not functional, were at once noted, and later irritative symptoms, twitchings and a tremor, appeared. Ten days after admission came an attack of coma, heralded by severe headache and drowsiness, during which a definite left-sided hemiplegia was present. This cleared gradually, leaving the tremor more marked, but was succeeded by similar attacks. The Wassermann reaction being negative both in blood and cerebro-spinal fluid, the diagnosis was made of right-sided cerebral tumour with multiple thromboses. This was verified at autopsy three months after admision, when a large glioma subjacent and posterior to the Rolandic fissure was found.

This patient had been treated elsewhere over a period of fifteen months, and throughout most of that time his mental symptoms formed the foreground of the clinical picture. It was his mental state, especially the depression, that resulted in his case coming under our care. The correct diagnosis was made entirely on physical signs.

Case 2.—The next case was that of a single woman, æt. 56, who was sent in suffering from involutional melancholia of some weeks' duration. Her condition had become worse, she had developed ideas of suspicion which had made her care at home impossible. She also suffered very markedly from myxœdema, but the mental side so dominated the picture that one could understand how that had come to be overlooked.

She appeared bewildered and anxious, and cried readily. She expressed the fear that she was being taken to prison and that she was unfit to associate with others. The history dated back about eight months. She had lived alone, with few friends and no relatives. She never trained for any profession, and her somewhat cramped environment was further narrowed by slight deafness. Latterly her already old-maidish ways had become really peculiar, and she had neglected her appearance, her house and her bodily needs.

She was hallucinated, hearing other patients making unpleasant and disparaging remarks about her. She was suspicious, and secretive about her personal belongings, and easily became agitated. Her memory was impaired, apparently owing to lack of concentrated recollecting rather than failure to register impressions. She passed, in the course of a day or two, into a drowsy, confused state, with periods of agitation during which her hallucinations became vivid and threatening.

On the physical side one noted that her face was dull and apathetic, the hair thin at the brow and temples, and her eyebrows ended abruptly at the middle of each orbit. Her eyelids were puffy and drooping, the skin was harsh and dry, the complexion muddy, the fingers coarse and stumpy. The dry skin was most noticeable over the abdomen, which was distended on account of neglected constipation. Whatever her mental condition, she was obviously subthyroidic, and was put on thyroid 5 gr. twice daily. This dose was continued for ten days, and there was immediate improvement. The confusion cleared rapidly, she ceased to be hallucinated, became alert and interested and lost her depression, changing in the course of a week from a querulous, suspicious and difficult patient into a pleasant and grateful one. She left with good insight and fully recovered

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after two months' treatment, looking at least ten years younger than on admission. This change in her looks was very striking, and afforded a good instance of "before" and "after!" She was hardly recognizable as the same woman. Her doctor now writes to say that she remains in normal mental and physical health, and continues to take thyroid regularly.

CASE 3.—The next was a married man, æt. 40, sent in as a confusional case following an attack of mild influenza. There was a bad family history. He had a brother under care elsewhere, a typical case of dementia præcox. Eighteen years previously our patient had had an attack of mild confusion, with depression, from which he made a satisfactory recovery.

The onset of his present attack was sudden. His doctor wrote of him as being depressed, slightly confused, apprehensive, and in a general condition of stasis of mind and body. This was followed by a period of restlessness, during which he became more confused, until he became quite unmanageable. He was apparently hallucinated, for he shouted about being poisoned and murdered for the sake of his money. His language and behaviour were alike indecent. He had wrecked his room and its furniture when finally the police came to remove him.

On admission the acute symptoms had subsided. He was exhausted, amnesic and confused. A detailed examination of the nervous system, including the cerebro-spinal fluid, revealed no abnormality, but he was too resistive and restless to allow of examination of his optic discs.

He ceased to complain of painful headache, but said often, "I feel so tired; my head is so tired." At times he appeared to be on the verge of another acute attack. The condition of his heart was not satisfactory; his complexion showed a tinge of cyanosis, and there appeared to be some myocardial degeneration. His pulse was not slow, average 80, and there were transient rises of temperature. He was dreamy, but could always be roused. Ten days after admission this note was made: "He does not really improve. He is in a state of resistive stupor, but one cannot help feeling that it has an organic basis." A tentative diagnosis of toxic confusion following influenza was made.

Four weeks after admission he became violently excited, then lapsed into coma, which deepened until he died. This latter development was obviously cerebral, possibly a hæmorrhage.

At the *post-mortem* examination a large glioma was found involving the splenium of the corpus callosum and extending into both cerebral hemispheres (occipital lobes). It was almost perfectly symmetrical and allowed of expansion into the great longitudinal fissure, towards both lateral ventricles, and the base of the brain. So much was this so that there was no outward flattening of the convolutions, although the tumour was nearly the size of a hen's egg. It contained areas of degeneration and evidence of old and recent hæmorrhage.

In this case there was real difficulty in diagnosis, increased by the patient being a psychopathic subject. Even with the tumour before us it was hard to say how much of his illness was directly due to his cerebral lesion, and how much to the general disturbance occasioned by it in a highly predisposed and unstable person, already the victim of a previous attack.

CASE 4.—The next case was a single woman, æt. 67. Her mental illness dated back eighteen months altogether, and she had been attended by her doctor at intervals. During this time she had felt an increasing lack of interest in her surroundings. She had been depressed and unduly worried about family matters. Her appetite was poor and she had begun to refuse her food. A fortnight before admission she had become agitated for a short time and since then had been treated in bed. A few days previous to admission she confessed suicidal feelings, and an almost obsessive fear that she would either attack someone, or run out into the street in her nightgown.

On the day after admission she seemed tired, but had perfect comprehension of her surroundings. She expressed herself satisfied, but feared that everything was too good for her, and that she might not be acceptable to the other ladies.

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She had other marked ideas of unworthiness, but there was no evidence of hallucinations. The next day her condition changed abruptly. She lay in bed with closed eyes and appeared dazed; she was resistive, refused her food, and wagged her head from side to side on the pillow. She was sufficiently conscious to resist having her eyes opened, and nodded "yes" or "no" to simple questions. At first she was mute, later mumbled to herself and by evening seemed quite confused. Careful examination of her nervous system revealed no abnormality. She was now put to bed in the hospital, and her colour, which had been darker than normal on admission, after a few sunny days on the balcony became more pigmented, and definite skin changes were noted, especially scaling and flaking on the dorsum of the hands. She also developed muscular twitchings of a myoclonic nature, and later the stools became loose and offensive, although there was not at this stage any fever.

Thus, four weeks after admission the case was established as one of pellagra. She passed into a placid, semi-wakeful state, with occasional restless periods. Nine months after admission she improved for a time, but relapsed and died fourteen months after admission.

Unfortunately, a *post-mortem* examination of brain and spinal cord could not be made. It is interesting to note the long period of pellagrous neurasthenia, and also a point in connection with the theory that this disease is caused by a deficiency of protein intake. For years this patient had lived largely on tea, cake and dry biscuits, with a little fruit and vegetables. She was quite unable to take meat, fish or eggs, never took root vegetables, peas or beans, and, according to relatives with whom she had lived, had for years obviously starved herself. The diet they described was short of every kind of protein.

Case 5.—In the last case, that of a single woman, æt. 26, no definite diagnosis had been made, but in view of her age, the question of dementia præcox had been considered. Six months prior to admission she had been for some months been a certified patient in another mental hospital, where her condition was one of depression with childishness. While there she was at times emotional and agitated, and attempted on one occasion to strangle herself. She later became unsettled and restless, and made several attempts to run away. She gave some trouble by interfering with other patients and by her use of offensive language.

There was nothing of note in the family history beyond a tubercular tendency. The patient was the youngest child and had been much petted and spoilt at home. Latterly she had so dominated the family that they were unable to leave the house, as she would scream and struggle wildly till their return.

On admission a modified version of this scene took place. Her childishness, total lack of insight and unreasonable resistiveness to the inevitable situation were very striking. So also was her posture. She stooped with her head poked forward, her arms semi-flexed, and her hands in the position called by Dr. Hall "the swan's-head" hand. Her expression was dull, even while crying noisily like a young child. Her gait was slow and shuffling, and the whole picture at once suggested the Parkinsonian syndrome.

Briefly, the facts as obtained from her sister were that, eighteen months before her admission, on a hot summer day she took a long cycle ride, came in exhausted, and that night went to Wembley on a night excursion. After spending a day at the Exhibition she collapsed and fell asleep. She returned by another night train, slept most of the way, but awoke just as a fellow-passenger vomited. This terrified her, and her sister attributes the whole of her illness to this "shock." When she got home she was "sleepy" for a month and required constant rousing. She slept where she sat, even at meals, but there were even brief spells of noisy excitement.

On examination she showed great poverty of ideas and some apparent difficulty in following questions. She could easily be induced to cry or laugh, but when left alone tended more often towards the former. She rarely did any useful work, she did not care to read, and took days to write a letter. She liked to hoard all her possessions under her pillow, and constantly expressed ideas of desertion—that we had taken all her belongings, that her family had left her, that she had no home.

Routine physical examination revealed nothing beyond a slight increase in her tendon reflexes. The diagnosis of post-encephalitic syndrome was made, however, on the strength of her history taken in conjunction with her physical state, and this was to some extent confirmed when later she became a pathological liar.

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Here again was a case treated for her mental condition long before it was possible to be certain of the causative factor.

The interest of these cases lies not so much in the diagnosis, which was easy by the time they came under hospital care, but in the association of mental symptoms and physical disease. They were instances of acute confusion, of involutional melancholia with paranoid tendencies, and of anxious depression caused by well-recognized organic conditions.

Although it is the rule rather than the exception to find such cases with mental symptoms, the last two were included in this series because it appears that a physical cause is the basic factor. Both showed reactions very often met with in mental practice, and the cases as a group seem to support the view that however varied may be the detailed symptoms of any case of psychosis, the broad outlines tend to follow the familiar patterns. It is of perhaps special interest that this should be so, even in these instances where the causes were, in themselves, clear-cut clinical entities.

I am indebted to Dr. Yellowlees, Medical Superintendent, for permission to publish these cases.

Medico-Legal Notes.

Rex *v.* Isaac Mitcham.

This case was tried at the Bedford Assizes, on October 19, before Mr. Justice Swift. The accused is 43 years of age, and was an inmate of the Three Counties Mental Hospital, Arlesey. He was charged with assaulting Dr. Finiefs, one of the medical officers, and with threatening to assault Dr. Fuller, the medical superintendent. He appears to have rushed out of a bath-room, with a wooden plunger in his hand, and to have threatened to kill anyone who came near him. Dr. Finiefs attempted to pacify him, and was struck on the head. Why the rather unusual course of prosecuting the accused was adopted does not appear.

At the trial a reversal of the situation common in such cases occurred, the defence asserting that the accused was sane. The defending counsel urged that Mitcham had a grievance in that he wanted to establish his sanity; other means having failed him, he adopted this method. A plea of "not guilty" was originally entered; but this was withdrawn and the prisoner pleaded "guilty." The judge ruled that every accused person is assumed to be sane, and that the raising of a plea of "irresponsibility" was a matter for the defence. He sentenced the prisoner to two months' imprisonment.

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Rex *v.* Albert Edward Davies.

This case was tried at the Chester Assizes on October 22, before Mr. Justive Branson. The accused is 28 years of age, and was charged with the murder of his child by drowning her. The deceased child was one of a family of five children. The mother died this year from tuberculosis. The child herself contracted tuberculosis; measles followed, and *cancrum oris* supervened. Davies was in the habit of sitting up all night with the sick child. On the morning of July 19 he went to the house of his mother-in-law, and said that he had drowned the child as he could not bear to see her suffering.

Medical evidence was given to the effect that the child's state of health was such that the shock of lifting her from the bed might have killed her; and the jury would seem to have accepted this explanation of the facts, and found the accused "not guilty."

The chief interest in the case, from our present point of view, lies in the remarks which are stated to have been made by the learned judge. In his address to the grand jury, referring to the present case, he is reported as saying: "This is a heart-rending story of a father who, driven to distraction by the suffering of his child, takes it upon himself to put an end to its suffering. I cannot avoid saying this, that it is a matter which gives food for thought, when one comes to consider that had this poor child been an animal instead of a human being, so far from there having been anything blameworthy in the man's action in putting an end to its suffering, he would actually have been liable to punishment if he had not done so. That is the state of the law, and we must administer the law." In his summing-up, the judge is reported as saying: "The prisoner was prompted to his act by love for the child, but the law of this country placed so high a value on human life that it did not allow it to be taken, even from the best of motives."

Rex *v.* Mary O'Donoghue.

This woman was tried in the first instance at the Central Criminal Court, before Mr. Justice Talbot, on a charge of child-murder. The facts were of an ordinary character. She was a single woman, and found herself in economic difficulties owing to having the child to support. The child was born on August 19. On September 21 she confessed to having strangled the child, who was then more than a month old. She was found guilty, and was sentenced to death (this sentence being, later, commuted).

The case came before the Court of Criminal appeal on November 7. It was urged, on behalf of the woman, that it should have been

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left open to the jury to return a verdict of infanticide rather than one of wilful murder, and that Mr. Justice Talbot was wrong in declining to leave the question as to whether the child was "newly born" to the jury. It was stated that Mr. Justice Shearman had left such a question to the jury in the case of a child of six weeks old (Rex *v.* McConnell, tried at Reading Assizes, October 17, 1923), a verdict of infanticide being returned. The court, however, upheld Mr. Justice Talbot's ruling. The Lord Chief Justice said that the Infanticide Act, 1922, required three things to be established before a verdict of infanticide could be properly returned. (1) The child killed must be the child of the accused woman: (2) The child must be newly born. (3) At the time of the act or omission, from which the death of the child resulted, the woman had not fully recovered from the effect of giving birth to the child, and that by reason thereof the balance of her mind was then disturbed. The court held that the second of these requirements had not been satisfied in the present case. The court was not proposing to define the expression "newly born," but it was satisfied that a child of more than a month old was not within the meaning of the Act.

When the Infanticide Act became law, it was generally believed to have been passed in order to obviate the solemn and almost blasphemous farce of sentencing a woman to death with all the solemn accessories of the Black cap, etc., when everyone in court, except perhaps the unhappy victim, was well aware that there was no prospect of the death sentence being carried into effect. There have not been lacking critics who have complained of the vague wording of the Act. These criticisms will not be diminished in force by the occurrence of the present case.

Rex *v.* Edward Lloyd.

This man had been sentenced to death at Durham Assizes for the murder of a police-constable. The case was tried before Mr. Justice Roche. The defence was that of insanity, but no medical evidence was called in support of that plea. The case came before the Court of Criminal Appeal on December 12. It was urged that Lloyd had suffered from "shell-shock" in 1915, and was, in consequence, discharged from the army. In 1926 he was described as a congenital mental defective. He had attacked other persons, without any obvious reason, and he had threatened, apparently after very slight provocation, to "swing for" the man whom he ultimately murdered. The judge had told the jury, at the original trial, that a verdict of "guilty but insane" was open to them, and

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that if they returned a verdict of murder with a recommendation to mercy, he would support such recommendation. The jury adopted the latter alternative.

The Court held that the jury took the judge's remarks to mean that it would be better for the prisoner if they were to find him guilty of murder, as this verdict would probably not be followed by the usual consequences. The Court was satisfied that the prisoner was insane when he committed the act; they quashed the sentence of death passed upon him, and directed that he should be kept as a criminal lunatic.

Rex *v.* Bertram Horace Kirby.

This man had been tried before Mr. Justice Swift at Lincoln Assizes for the murder of his wife, and sentenced to death. The defence raised had been that of insanity. Kirby had been discharged from the army as insane in 1915, and had undergone a serious operation in 1926, which had increased his liability to mental trouble.

The case came before the Court of Criminal Appeal on December 12. It was urged that the judge had directed the jury that the burden of proof of insanity rested upon the defence, but had not made it clear that this burden would be discharged if it was shown that the prisoner had been insane at the time of the crime, and that it was not necessary to prove that he was insane at any later time.

The Court held that the jury had before them the evidence of a doctor that Kirby was insane for just the space of time in which he committed the crime, and that they had not been satisfied that the defence of insanity was established. The appeal was dismissed.

Rex *v.* John Thomas Dunn.

The prisoner had been tried for the murder of his wife at Durham Assizes, and sentenced to death. The defence had been that the wife had committed suicide, and the plea of insanity had only been incidentally raised.

The case came before the Court of Criminal Appeal on December 12. It was urged that, although the jury had not been invited by the prisoner's counsel to return a verdict of "guilty but insane," there was evidence upon which such a verdict could have been found. The Court, however, held that the defence of insanity must be strictly proved at the trial, and dismissed the appeal.

The case seems to show the danger of treating the plea of insanity as a kind of "secondary" defence, keeping it in the background, and endeavouring to obtain an acquittal on the facts.

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REX *v.* SUSAN ELIZA TURNER.

This woman, æt. 60, was tried at the Central Criminal Court before Mr. Justice Talbot on December 12 for the manslaughter of her daughter. The deceased woman had died as a result of septic poisoning, consequent upon an ulcer on the hip, and of general neglect. The prisoner had neglected to obtain any medical or other assistance.

Dr. Hall Morton, governor and medical officer of Holloway Prison, stated that the accused had a mentality of a child of 6½ years of age. He thought that she was unable to take an intelligent interest in her trial. This view was contested, on behalf of the accused. The jury found that she was fit to plead, and the trial was proceeded with in the usual way. It was urged that the alleged offence was merely one of ignorance of hygiene and neglect of cleanliness, and that this could not be considered as a crime. the jury, however, found the prisoner guilty. A sentence of ten years' penal servitude was passed, the judge remarking that this was the best course to take in the prisoner's own interests, and that she would be well cared for, physically and mentally. He added that, in all probability, she would ultimately be treated as a criminal lunatic.

Occasional Notes.

Reflections on Old Age: Sir James Crichton-Browne's 87th Birthday.

NOTWITHSTANDING Sir James Crichton-Browne's lack of enthusiasm on attaining the age of 87 years, which is recorded of him in a report of an interview he gave on the recent anniversary of his birthday to a member of the Press, we venture to offer him our cordial congratulations and wish him many happy returns of that day.

Merely to live to that age may perhaps be considered as no great achievement, but to be able, in addition, to look back upon sixty-five years devoted to the welfare of those described by Lord Shaftesbury as being "the most helpless, if not the most afflicted portion of the human race" must be a source of satisfaction, and assist towards keeping at bay that senescence of mind and body which is dreaded by all men. A life so spent is a continual stimulus to the "will to live" and thus has its own reward, for the "will to

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live" means, if it means anything, courage for the present and hope for the future.

At the same interview Sir James expresses his opinion that every man, if he took proper care of himself, could live to be 100 and maybe more, proper care meaning to live quietly and sensibly, and not to avoid hard work. If this be true—and we have no doubt about it—then Sir James has still many birthdays to come.

Prof. Irving Fisher, of Yale University, has recently had something to say on the lengthening of human life (1). He points out that a study of age-mortality statistics shows that, after the age of 60, while mortality continues to increase, its rate of increase remains almost exactly constant until the age of 85, after which it actually decreases, especially in women. If there exists any definite limit to human life the opposite should be the case. Therefore, according to the only statistical evidence we possess we must give up the concept of any definite span of life, and substitute for it the concept of "chance of survivorship which diminishes indefinitely, but with no known or knowable limit." According to this investigator, life cells are immortal, death is always accidental. By safeguarding against bullets, poisons and germs, theoretically life can be extended indefinitely, even to more than 125 years, which Metchnikoff fixed as the age of natural death.

None of this, however, takes account of the psychological factors of life. It regards the body merely as a living machine dependent for its continued existence upon the vagaries of environment—the sport of chance, whatever that may mean. The art of living is something more than safeguarding the body against lethal agencies. Not only the body, but the mind must be disciplined if life is to be prolonged. As often as not men, after arriving at maturity, facilitate senility by failing to appreciate that every epoch, even decade, of life has its peculiar interests, duties and responsibilities; they take too much count of the passing of time, and set themselves to vegetate instead of taking up courageously the new trends of life as each epoch arrives. The natural relationships of mind and body are thus disturbed and unhealthiness of both follows. The "will to live" is embarrassed by feelings of inferiority as failure of adaptation to changing circumstances progresses, and the mind seeks refuge in fantasy, fatuousness or querulousness. The world has no place for these derelicts, and death as a rule is a happy release for all, and not a loss as it would always be if wise living prevailed. There is much truth in the saying of Æschylus that "Οταν σπεύδῃ τις αὐτὸς, χὠ θεὸς συνάπτεται."*

* "Whenever a man deliberately chooses the downward course, nature (God) helps him on."

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Those who would attain a reasonable span of life could not do better than read *Middle Age and Old Age* by Dr. Leonard Williams (2). Though many would prefer death to life on his jungle diet, his book is full of wisdom and sound advice. In his remarkable preamble he says " that larger destiny, the cultivation of science, art, the humanities, and the things of the spirit generally, is a function of the central nervous system. Work of the kind which the system furnishes can, and does, persist long after the muscles are no longer capable of feats of strength, and it is by no means infrequent to find that a man's best intellectual work has been accomplished when Time has emancipated him from the more turbulent claims of a vigorous manhood. It was obviously intended . . . that he should be born an animal body and gradually become a spiritual body . . . the mind, untrammelled by the excessive demands of the flesh, settles down to its own appointed task."

Contemplation of lives such as those of Sir James Crichton-Browne and the late Sir Bryan Donkin are a confirmation of the view that the art of living wisely and well is worth cultivating—nay more, is essential to that fruitful mental activity and freedom from the ills of the flesh which are the natural and legitimate heritage, even after a green old age is reached, of those who care to claim them.

As a further evidence of the truth of what we have seen saying, Sir James, in his old age, has enriched English literature by the publication, under the title of *Victorian Jottings*, of part of his diary (3).

Although he says that these jottings are from " An old Commonplace Book," yet he reveals in this book more of himself than he imagines. His keen sense of humour, wide sympathies, unique experience of the social and intellectual life of his times and of the great men and women who have been his contemporaries, and above all his tenderness and love for his weaker brethren blighted in mind and perhaps in body, cannot fail to impress themselves on the mind of the reader.

It is a book to give pleasure as well as food for reflection every time it is taken up. An additional incentive to its purchase is that it contains as a frontispiece that excellent and lifelike cartoon in colour " Spy " once made of him. J. R. L.

References.—(1) *Vide American Journ. of Public Health*, January, 1927.—(2) Oxford University Press, 1925.—(3) Etchells & Macdonald, 1A, Kensington Place, London, W. 8.

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The Training and Examination of those Nursing Mental Defectives.

In our review of the Sixth Annual Report of the Board of Control (England and Wales), 1919, occurs the following statement (*vide Journ. Ment. Sci.*, October, 1921, p. 488):

"Mental disease and mental deficiency are merely branches of the same subject, and so interwoven that any attempt to treat them separately is bound to fail in the long run. The same authority governs them, and there should be a close co-operation and, as far as possible, unity in professional work. This is the attitude adopted by our Association both as regards its membership and its nursing certificates . . . and one thing is certain, namely, that lunacy and mental deficiency are one and the same problem, which should be tackled in the same spirit, with the same ideals, and the solution of which will be more quickly found with a unity of effort and a community of thought and experience."

We are of the opinion that these words express the views of our Association, both then and now. Any estrangement of the subject of mental deficiency from psychiatry would be deplorable in that it would, sooner or later, undermine the supremacy of those ideals which have ever guided the care and treatment of the mentally disordered or deficient since the days of Pinel, Tuke and Andrew Duncan, and which are so readily lost sight of by the laity and even general practitioners and nurses.

But it does not follow that in this regard no distinction is to be made between cases of arrest of mental development and cases of acquired mental disorder; on the contrary, as we have only recently stated, "both clinically and administratively there are important differences, chiefly, however, in the latter respect. Though they are both included in the science of psychiatry, yet irrecoverability and training are the chief aspects of the former and recoverability and treatment of the latter, and these several aspects present the practical side of the subject" (*vide Journ. Ment. Sci.*, January, 1927, p. 118).

These differences were clearly recognized by our Association in 1917, when it instituted a special certificate for those nursing mental defectives. The education and training required were the same as those for the certificate in mental nursing but only up to a certain point, where there occurred a divergence to meet the necessities of the nursing of the two different types of case. But nursing ideals were not endangered in any way by this divergence, and they became imperishable links between these two branches of psychiatric nursing.

Since that time, however, the nursing of cases of mental disorder and of mental deficiency has made notable advances, following upon

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the closer drawing together of psychiatry and general medicine and the advent of new methods of diagnosis and treatment.

Special branches of medicine and surgery (also dentistry) have been brought to bear more systematically on the treatment of both kinds of cases, especially those of mental disorder, and the seeds of psychiatric team-work have been sown. Sick nursing in mental hospitals has broadened and deepened, and the need for a greater proportion of nursing staff being doubly trained and certificated has been more realized. In addition the treatment of mental disorders by the modern scientific methods of applying occupational therapy has made considerable progress in many mental hospitals, and applied psychology has found a permanent place in clinical psychiatry, particularly in regard to mental deficiency.

The principal factors, however, that have revolutionized the nursing of the mental defective have been the great extension and improvement in treatment by industries and occupations, physical drill, dancing and amusements, the introduction of Boy Scout and Girl Guide character training, and special methods of education. All these factors have had a profound effect, not only on care and treatment in themselves, but on the directions which the accommodation for such cases has taken. Contrary to that for cases of mental disorder, mental deficiency accommodation has developed in many directions, making it possible to classify mental defectives in a variety of homes, colonies and institutions according to the kind of supervision and treatment required. Grading for treatment in individual institutions has also been facilitated.

It is not surprising, therefore, that a demand should have arisen for a greater recognition of these developments in the training and examination of those engaged in nursing mental defectives. The predominant character of the duties required of them differed greatly in the various kinds of mental deficiency institutions.

While the theory and practice of nursing the physically sick could be taught anywhere, only a very few institutions could provide that training in actual bedside nursing necessary to qualify for the Association's certificate of proficiency, and it was obvious that the Association, in insisting on this, was asking the impossible from a large proportion of mental deficiency nurses; and besides, the 1923 syllabus for the final examination no longer covered the ground.

The Association is both "master" and "servant" in matters of this kind—"servant" in obedience to the dictates of the practical possibilities of the situation, and "master" in insisting upon the dominance of psychological medicine and nursing ideals in meeting them. This may be claimed in regard to the Association and its

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revised course of training and syllabus for the examination for those nursing mental defectives which became operative in November, 1927.

Although the revised syllabus is now issued as a separate document, it is almost identical with that for the mental nursing certificate up to the point of necessary divergence. It will be seen that the Association has adhered to its nursing ideals, and at the same time has met practical facts by making that divergence fit the situation as it has evolved. Practical training and experience in bed-side nursing form one of the optional subjects in the Final Examination, but, if taken, the course of training and the syllabus do not differ in essentials from those of the year 1923, and, as far as the Final Examination is concerned, adopted by the General Nursing Council for its Registration Examination.

As to how this revision, which has not been without its difficulties and dangers, was brought about, is the subject of another article. It should be recorded here that what is hoped will prove a successful solution of this knotty problem was ultimately effected by the untiring efforts of Dr. E. B. Sherlock and a special Committee, which included, among others, Dr. Arthur Rotherham and Mrs. Pinsent of the Board of Control (England and Wales).

J. R. L.

The Revision of the Course of Training and Syllabus for the Certificate of Proficiency in the Nursing of Mental Defectives.

In that section of the Thirteenth Annual Report of the Board of Control (England and Wales) which deals with "Training of Staff for Mental Deficiency Institutions," reference is made to "four main departments of institution life" which have to do respectively with nursing the sick and with different aspects of teaching—school, industrial and recreational. The hope is expressed that a "system will be introduced in which training in one or other of the above subjects will form part of the examination whereby the student obtains a certificate of proficiency."

It must not, however, be assumed that it was not until 1926, the year covered by the Report, that this matter received attention. Those interested in work among mental defectives have been discussing it for a long time, and during the last four years it has been constantly under consideration.

On February 21, 1924, a special committee, which included Drs. W. H. Coupland, R. L. Langdon-Down, A. Rotherham, E. B. Sherlock and F. Douglas Turner, was appointed by the Royal Medico-Psychological Association, with instructions to report to

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the Educational Committee on the suitability of the practical work required of candidates at the final examination in the nursing of mental defectives. This committee, of which Dr. Rotherham was chairman and which was known by his name, held several meetings, and drew up a report which was submitted to the Educational Committee in November, 1924.

No action was taken by the Association on this report. The circumstances are a little obscure, but probably the explanation is to be found in the diversity of opinion as to the connotation of the term "nursing," which had so long nullified all efforts to extend recognition to more than a small proportion of those concerned with the care of mental defectives.

An attempt to achieve this end by another body resulted in the holding of a Conference, in February, 1926, under the auspices of the General Nursing Council (England and Wales), but this was equally fruitless. It was, perhaps, only to be expected that the Council would take an even narrower view than did the Association as to what constitutes "nursing."

The same month, however, saw the appointment by the Educational Committee of the Association of another committee "to consider the training and examination of those attending mental defectives and report to the Educational Committee."

This committee consisted of Drs. C. G. A. Chislett, A. W. Daniel, R. L. Langdon-Down, E. S. Litteljohn, A. M. McCutcheon, Bedford Pierce, W. A. Potts, A. Rotherham, E. B. Sherlock and A. F. Tredgold, there being subsequently added Mrs. Pinsent and Dr. F. Douglas Turner. Dr. Sherlock was appointed convener.

Between March, 1926, and March, 1927, five meetings were held. The committee, having accepted the principle that some change in the mode of conducting the examinations for "those attending mental defectives" was desirable, was able to confine its deliberations to the practical issues which arose—that is to say, the nature of the alterations required and the way in which its proposals might be rendered effective.

This latter problem presented considerable difficulty, since it involved a wide extension of the field of examination. The Association's machinery for the conduct of examinations has hitherto been provided mainly by its own members, and even the most versatile medical superintendent would not be likely to have a sufficiently comprehensive knowledge of the whole range of subjects to enable him in this matter to dispense with outside assistance.

In May, 1927, a provisional report was submitted, and on this being adopted by the Association it became necessary to prepare the more detailed particulars promised in the report. This

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was done in time for the annual meeting in July, and the consequential alterations in the Regulations for Training and Examination and in the rules for the Conduct of Examination were proceeded with. These were formally approved by the Association in November, 1927 (*vide* p. 156).

The result of this action has been the more complete separation of the two schemes of training for the final examinations held by the Association—that in mental nursing on the one hand, and that in nursing mental defectives on the other. It will in future be possible for a nurse at a recognized institution for mental defectives to qualify for the Association's certificate in one or more of the following sections:

A. Bedside Nursing.
B. Special Methods of Teaching Mentally Defective Children.
C. The Teaching of Mentally Defective Adults.
D. Physical Training, Drill, Dancing, Indoor and Outdoor Amusements.

A certain standard of knowledge of general nursing and of the special needs of the mentally defective is required in all the sections, the distinction between them applying only to the practical part of the examination.

Much will depend on the appointment of satisfactory coadjutors, who, under the new Rules, "*must be specially qualified in one of the subjects of the special part of the Schedule of Practical Instruction—Sections A to D of the Syllabus. In Section "A" a coadjutor must be a fully trained nurse holding a senior post on the staff of a mental hospital or certified institution. In Section "B" a coadjutor must be a certificated teacher with experience of mental deficiency work. In Sections "C" and "D" a coadjutor must be on the staff of an institution for cases of mental abnormality, and must have had practical experience of teaching the subjects covered by the respective sections.*"

It is too early yet to form an opinion as to what extent advantage will be taken of the facilities now provided, or in what measure they will, in the words of the Board of Control's Report, "increase the efficiency of the staff both by improving the quality of their work and by attracting to the service an intelligent class of men and women willing to take up mental deficiency work as a career." E. B. S.

Progress of Psychiatry: Recent Legislation and other Developments in the State of New York.

THE attempts which have been made during the past year in the State of New York to deal with problems of mental disorder merit careful attention in view of the similarity of that State, with its

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large urban population, to Greater London. In particular, the reorganization of the administrative control of mental hygiene, enacted in 1926, and brought into force last year, is of great interest at a time when legislation is being contemplated in this country.

The magnitude of New York's problem may be illustrated by a comparison of figures. The number of insane patients in the State hospitals in 1926 was approximately 44,000, the total population of the State being about 10,500,000. The corresponding figures for the County of London were approximately 24,000 and 4,500,000 respectively. The figures here appear to be appreciably in New York's favour, but whereas the insane population of London had increased by less than 1,000 in the four years preceding 1926, in New York the increase was over 4,000. The number of direct admissions in London has for some years remained in the neighbourhood of 3,300 a year; the direct admissions in New York in 1926 totalled over 9,000, of whom 7,700 were first admissions, and this figure is increasing steadily from year to year. It is stated that nearly 2,000 additional beds will be required every year for the next few years. Overcrowding exists in the State hospitals to an extent not found in this country. Manhattan State Hospital, with a measured capacity of 4,847, actually housed over 6,300 patients, and one of the smaller hospitals is overcrowded to the extent of 50% of its measured accommodation.

Provision for mental defectives has also been inadequate, and the institutions provided, called State Schools, are in some instances obsolete, and are inconveniently situated for the areas they have to serve.

Inevitably, vigorous efforts have had to be directed towards the provision of more and better accommodation for patients. But more and more the necessity has been stressed of attacking the problem in a more radical manner by an intensive campaign directed towards the prevention of mental disorder, and the two outstanding measures adopted last year—the bringing into force of the new Mental Hygiene Law and the establishment of the new Psychiatric Institute—have this end in view.

Until last year the administration of the law relating to the insane was in the hands of the State Hospital Commission, which combined functions exercised in this country by the Board of Control and (in part) the local authorities. The Commission consisted of three members, of whom one was a physician with special experience of psychiatry, one a lawyer, and one a lay citizen. The control of each hospital was vested in a Board of Managers appointed by the Governor. They were responsible for the internal affairs of the hospitals, including the appointment of superintendents and

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other officers. Mental deficiency was under a separate Commission, which had been established in 1918 and had drafted a Mental Deficiency Law, enacted in 1919; for some purposes, however, the institutions came under the supervision of the State Board of Charities. There was also separate legislation regulating the admission of epileptics (sane and defective) to the colony provided by the Board of Charities, known as Craig Colony.

By the Act of 1927 all these enactments were combined into a single statute, known as the Mental Hygiene Law, and the departments concerned were united into a single Department of Mental Hygiene. The head of the Department is a medical man, who is styled the Commissioner of Mental Hygiene, and there are three Assistant Commissioners, all medical men. Additional powers are given to the Commissioner, and in particular the appointment of superintendents is in his hands. The old Boards of Managers remain with reduced powers and are now called Boards of Visitors. The basic idea, it is stated, is to place full power and responsibility in the hands of the chief executive of the State. The elimination of the legal and lay members of the Commission is a remarkable feature of the scheme, since the Commission has all the duties of inspection and control that have always been held to necessitate the inclusion of non-medical elements in our own Board of Control. It must be taken as evidence of the confidence that is felt in the experienced psychiatrists, from among whom the Commissioners are chosen.

The three Assistant Commissioners are each in charge of a division of the Department, as follows:

1. Division of Mental Diseases.
2. Division of Mental Deficiency and Epileptic Diseases.
3. Division of Prevention.

The former medical member of the State Hospital Commission, Dr. F. W. Parsons, has been appointed head of the new Department. The former medical member of the Commission for Mental Deficiency Dr. Sanger Brown, 2nd, becomes Assistant Commissioner in charge of the Division of Mental Deficiency. Two Assistant Commissioners remain to be appointed.

The institution of a Division of Prevention is probably the most important feature of the new legislation. Its establishment is evidence of the full recognition by the State of its duty in tackling the problem of mental disorder on public health lines. In this connection great use is being made of the weapon of publicity, in an endeavour to inform and educate the public. The movement which led to the reorganization of the Department of Mental Hygiene was itself fostered by these means. An issue of State

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bonds extending over four years and planned to reach a total of $50,000,000, to be devoted mainly to purposes of mental hygiene and treatment, has been successfully launched. An appeal is made to the civic patriotism of the citizens, and they are invited to develop a sense of pride in their institutions and in the activities of the State in this as in other fields of social beneficence. Articles in the general press and wireless talks are used in this publicity campaign, and special leaflets on mental hygiene are being issued by the new Department.

The second great step taken during the year is the founding of a Psychiatric Institute and Hospital in connection with the new Medical Centre in New York. The Medical Centre, which is being established under the auspices of Columbia University, is to consist of a group of new hospitals, built on adjacent sites surrounding the University Medical College. A general hospital, women's and infants' hospitals, a neurological institute and other institutions are being removed from their present sites. The present Psychiatric Institute is on Ward's Island, close to the Manhattan State Hospital; it will be superseded by a new twenty-storey building now being erected at the Medical Centre. The new hospital will have 210 beds, an out-patient department, and ample facilities for research and for the instruction of students, practitioners and social workers. Great importance is attached to the provision of children's wards and special child-guidance clinics. In addition to voluntary patients, the Institute will also continue to admit selected cases from the State Hospitals who are suitable for treatment at the Institute, or who are of interest in connection with the particular researches being carried out there at any given time.

The close connection of the Institute with Columbia University has been marked by the appointment of its Director, Dr. George Kirby, to be Professor of Psychiatry in that University. Until recently Dr. Kirby held a similar appointment at Cornell University, where he conducted an out-patients' clinic.

The corner-stone of the new building was laid on September 17, 1927, when addresses were delivered by Governor Smith and others. A similar institute on a smaller scale is to be erected at Syracuse in the northern part of the State in connection with the medical school there.

Better provision is also to be made for the observation and treatment, pending certification, of psychotic patients prior to being admitted to the State hospitals. In particular, the psychopathic pavilion at Bellevue Hospital, through which many of the cases from New York City pass, is to be rebuilt on modern lines.

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Coming now to the actual work carried out in the State hospitals, the most encouraging feature is the development of occupational therapy on a large scale. With the provision of an adequate staff of specially-trained occupations officers, and the presentation to the patients of a wide range of arts and crafts, linked up with physical training and recreation, the occupations department takes a foremost place in the life of the hospital, and the results have been as excellent here as they have been found elsewhere.

The position as regards the medical and nursing staffs, however, appears to be unsatisfactory, the same thorny problems arising as in this country. Nurses and attendants form different grades in the State hospitals, the nurses graduating from special training schools provided at the hospitals. In spite of the excellence of the training given, the number of pupil nurses is disappointingly small, and the number of new entries has continued to fall during the last year. A shortage of experienced psychiatrists is also felt. Although the ratio of physicians to patients is fairly high—generally about 1 to 200—there were actually 66 vacancies in the service in 1926. In a total of about 215 physicians, there were over 100 resignations during the year, and a similar number of new appointments. The Director of the Psychiatric Institute also reports that he has been unable to fill several important posts and that the work has suffered as a consequence. It is hoped that the establishment of the new institutes and clinics will stimulate a greater interest in psychiatry among the medical profession as among the public, so that the new buildings and equipment may not prove ineffective through the absence of an adequate staff to use the facilities provided.

A. W.

Part II.—Reviews.

The Abilities of Man: Their Nature and Measurement. By C. SPEARMAN, Ph.D., F.R.S. London: Macmillan & Co., Ltd., 1927. Demy 8vo. Pp. viii + 415. Price 16*s*.

Despite the triteness of the phrase it may be said that this book is quite likely to mark an epoch. It represents work inspired and directed by its author throughout a period of twenty years, and carried out by over thirty of the most notable English psychologists of the day who have been his students and colleagues at University College, London.

In the final words of the text it is claimed that the entire wealth of experimentally ascertained facts constituting the psychology of cognition has been fitted into a unitary system without apparent remainder, and in this way a step has been taken

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towards supplying psychology with a genuinely scientific foundation. This is a large claim, but it appears justified. It seems quite likely that this book might have upon both normal and morbid psychology the sort of influence that the *Origin of Species* had in biology.

To the reviewer it appears desirable that a knowledge of the principles which it enunciates should be possessed by every investigator of mental problems, whatever his special method of attack upon these, and his particular field.

The book deals essentially with attempts to define unitary capacities within the field of cognition, whether universal or specialized, and how far variations in the efficiency of these from one individual to another are independent or concurrent. Applied psychology of the normal would have gone far if it could indicate the means whereby ultimate and indivisible psychological characters, whether specialized or generalized, and whether cognitive, affective or conative, could be assessed in a person's make up. We should then be in a position analogous to that of the chemist who can estimate the elements present in a mixture of gaseous compounds by analysis, and can determine their essential physical conditions, such as pressure and temperature.

The Mendelian theory leaves little hope that the study of mental heredity will progress beyond its present anecdotal stage until some such fundamental analysis is possible and comparison between members of a family can be instituted in respect of truly unit characters. Towards such an understanding, with all its possible eugenic consequences, this book might prove to be the first step.

It is especially desirable that workers trained in the analysis of mental function upon the lines indicated by Prof. Spearman, should co-operate with clinicians in defining the problems of both normal psychology and psychiatry and in attempts at their solution. History shows that the natural experiments wrought by disease are among those most likely to reveal human functions in isolated activity or loss, and thus are most fruitful in the identification of unitary functions.

The most convinced materialist attacking the problems of psychiatry will not depreciate the importance of identifying unitary characters in psychological terms, since such identification would simplify the most rational research into the organic basis of abnormal mind, whether by the methods of anatomy, chemistry or physics.

It is true that the trend of modern psychiatry has been increasingly and perhaps excessively to find the essence of psychoses and neuroses in affective and conative rather than in cognitive disorders. But it is, of course, accepted by Prof. Spearman that cognition is only an abstraction or aspect of a total simultaneous reaction of the organism, only separable from affection and conation by the sort of artifice that everywhere forms the condition of science.

A necessary corollary of the finding that individual cognition was the resultant of identifiable factors, some universal and others specialized, would be the likelihood that affection and conation represent the outcome of like interactions.

It is impossible to give a comprehensive *précis* of the contents

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of *The Abilities of Man*. Its final chapter, termed "Cardinal Conclusions," is a condensation which is too long to reproduce. But this is rightly prefaced by a reminder that it is hard to summarize when in the body of the book the work of years is reported in a few lines.

The first part of the book is historical. It exposes the weakness of various doctrines that have been held regarding the nature and relation of cognitive capacities in the same and in different persons. It criticizes the following doctrines:

(1) The "monarchic doctrine," which "assumes mental ability to be under the sovereign rule of one great power named '*intelligence*.'" It demonstrates the equivocality of this term, and the rising doubt as to the nature and the importance, and even the existence of any common factor measurable by alleged "intelligence tests."

(2) The "oligarchic doctrines" include—

(*a*) Elevating to the rank of definite entities certain formal "faculties," *e.g.*, intellect, memory, attention and so forth, each functioning in a unitary manner. The reasoning by which the doctrine is reached is shown to be riddled with fallacy, and to lack foundation in observed facts.

(*b*) Generalization of selected types of reaction, such as Jung's *Introversion* and *Extroversion*.

It is quite unproven that such tendencies have universal validity for each person's thought regardless of topic.

The "*Anarchic doctrine*" propounds in the words of Thorndike that "the mind is a host of highly particularized and independent faculties." Complete independence is demonstrably untrue, as is the view that tests of intelligence furnish evidence of "a general level"—"an average" or "sample" of independent abilities.

Dismissal of these doctrines brings an almost inevitable conclusion—belief in the interaction of universal and specialized factors in cognitive operations and acceptance of the "Eclectic doctrine." Positive proof of the doctrine is the aim of Prof. Spearman's book. This proof is rooted in the use of a mathematical criterion whose general nature may be best indicated by the following quotation:

"Criterion of Tetrad Differences."—The start of the whole inquiry was a curious observation made in the correlations calculated between the measurements of different abilities (scores for tests, marks for school subjects or estimates made on general impressions). These correlations were noted to tend towards a peculiar arrangement, which could be expressed in a definite mathematical formula, and the formula thus originally reached has ever since been maintained without any essential change. . . .

"The form recently preferred is given below. In it the letter r stands for any correlation, whilst its two subscripts indicate the two abilities (tests, school marks, etc.) that are correlated:

$$r_{ap} \times r_{bq} - r_{aq} \times r_{bp} = 0.$$

"The two factors."—So far the business is confined to matters of observation; we simply try out the tetrad equation on any table of actually observed correlations and examine whether it fits. The next step, however, is not observational but purely mathematical; we have to ask how, if at all, this equation between the correlations bears upon the individual measurements of the correlated abilities. The answer is that there has been shown to exist a very remarkable bearing indeed. It is to the effect that, whenever the tetrad equation holds throughout

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any table of correlations, and *only* when it does so, then every individual measurement of every ability (or of any other variable that enters into the table) can be divided into two independent parts, which possess the following momentous properties. The one part has been called the 'general factor,' and denoted by the letter g; it is so named because although varying freely from individual to individual, it remains the same for any one individual in respect of all correlated abilities. The second part has been called 'the specific factor,' and denoted by the letter s. It not only varies from individual to individual, but even from any one individual ability to another. The proof of this all-important mathematical theorem has gradually evolved through successive stages of completeness and may now be regarded as complete.

"Although, however, both of these factors occur in every ability, they need not be equally influential in all. On the contrary, the very earliest application of this mathematical theorem to psychological correlations showed that the g has a much greater relative influence or 'weight' in some of the abilities tested than in others. Means were even found of measuring this relative weight. At one extreme lay the talent for classics where the ratio of the influence of g to that of s was rated to be as much as 15 to 1. At the other extreme was the talent for music, where the ratio was only 1 to 4.

"Here at once we have before us the essence of the whole doctrine, the seedling from which all else has sprung."

Doubtless most readers of this Journal, like the reviewer, will be content to take for granted the mathematics involved. It is clear, anyhow, that the essential difference in the method of attack on the problem is the abandonment of all assumption, and the institution of a purely objective inquiry into the possibility of demonstrating mathematically (*a*) one or more universal factors influencing in each person all cognitive operations alike, and (*b*) the respective degrees in which these universal and specialized factors determine results.

The results which emerge may be stated simply as follows: In every person there exist four independently variable universal qualities. Each operates to the same degree in all cognitive operations of that person, but is possessed in different measure by each person.

(1) Every person possesses in his own measure a quality to which Prof. Spearman gives no name but g, and which he declines to call "intelligence" on account of the previous vague use of that term. By g is meant a generalized facility or plasticity in acquiring associations. Experiment shows that g is indistinguishable in respect of speed and accuracy, extensity and intensity.

(1*a*) Every person possesses in his own measure a host of potentialities for the formation with varying readiness of special dispositions. There is no connection between such potentialities unless they are very closely allied.

(2) Every person possesses in his own measure a second generalized quality, c. The best short name for it would be "lag" or general inertia. It denotes the personal tendency to perseveration rather than novelty of association, the sort of characteristic we call stability in our friends and stolidity in those we dislike—a brake alike upon mutability and originality. It is distinct from the conative disposition which one might term "tenacity."

(2*a*) Every person possesses in his own degree a host of independent tendencies for impressions of a particular class to remain capable

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of revival. High unthinking retentivity of some special kind is one main factor in certain artistic gifts; this may be correlated with certain motor or sensory facilities. The independence of special facilities, the limitation of their domain as shown experimentally by Prof. Spearman's school, demonstrates the futility of many vocational tests now current in industry.

(3) Every person possesses in his own measure a third generalized tendency, *viz.*, susceptibility to oscillations of efficiency in his cognitive processes or perhaps briefly to fatigability of these.

(4) Every person possesses in his own measure a generalized factor which Prof. Spearman terms *w*, and which he suggests might be termed "self-control" or "common sense." Alternative names might be "poise" or "balance." This general quality would seem to correspond to the inclination to comprehensive and selective association or synthesis.

Prof. Spearman evidently has a personal inclination to conceive the existence of the universal factor *g* as due to a hypothetical mental energy, and further to refer *c* to the inertia of this and fatigability to its oscillation.* The specialized abilities he regards as inherent in structure, and he draws a comparison with the energy and the structure of an engine. Finally he refers the factor *w* to the activities of an engineer. These dualist speculations hardly seem quite in keeping with the objectivity of the rest of the book, and form no essential part of its theme. It might possibly prove more worth while to consider in detail how far these findings can be reconciled with some such neurological conception as that of Hughlings Jackson.

Offhand there seems no insuperable difficulty about connecting with the theory of levels the synthetic function *w* on the one hand and the specialized retentivities on the other. Comparison also seems possible of *g* and *c* respectively with the positive and inhibitory aspects of a level.

It would be easy to speculate how far subnormality in one or other of the four universal factors which can be distinguished in the healthy corresponds to a general tendency notable in some clinical syndrome, *e.g.*, defect of *c* (*i.e.*, of "lag") to mania, excess of fatigability to the passive aspect of melancholia and to neurasthenia, and to wonder how far shortage of *w* can be demonstrated as diffuse in schizophrenic and hysterical states.

Such guesswork would, however, be out of keeping with the spirit of this book. Its trend is above all to ensure the substitution of measurement for uncontrolled assertion—a consummation which is overdue in psychiatry. But it may be noted that in psychoses there is an almost constant coupling between change of cognitive abilities in a certain direction, and a particular mode of affective and conative disorder. This clinical platitude might prompt a

* Prof. Spearman in his book apparently uses the word "oscillation" to embrace "fluctuation"; the former, of course, means change in direction, swing to and fro; the latter, change in degree or amount, rise and fall, a wave-like motion.—[EDS.]

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question whether unitary mental properties at their most fundamental do not govern at once thought, feeling and action. The future answer must be sought with the same objectivity as has distinguished the attack on the problem of cognition alone.

The conclusions so far reached by attempts to analyse such cognitive defects as exist in the psychotic upon Prof. Spearman's principles are stated in an extremely guarded way. But their negative character seems rather difficult to reconcile with clinical psychiatry.

Prof. Spearman evidently recognizes as something special (reduction of *s*) the sort of current amnesia seen in Korsakow's psychosis; as to the obvious distinction of this from generalized dementia all will agree, but fewer with a tendency to make it a solitary instance of specialized loss.

A research is quoted by Dr. Hart and the author himself, involving eighteen tests for separate sorts of cognitive activity, applied to patients suffering from "præcox, general paralysis, epilepsy, primary dementia, paranoia, manic-depression, psychasthenia, imbecility, and alcoholic hallucinosis."

The conclusions emerging from these researches would seem to be—" there might have been expected a diversity in the kind of damage done to cognitive power. . . . Instead of any such thing, however, the experiments and measurements showed that in every case the most obvious cognitive injury was always of the same kind, namely, universal. In every instance, too, all abilities were impaired in proportion to their respective saturations with *g*."

Obviously it would be agreed by all (including Prof. Spearman) that cognitive impairment will be found to differ greatly *in degree* as between groups of patients properly classified under each of these heads. Clinical psychiatrists, however, are likely to need much persuasion before they accept as *uniform in kind* the whole cognitive abnormality found in each of these syndromes. Probably they would agree as to the presence of a common element. But tests which fail to take note of any difference between the sort of intellectual processes that are impaired in alcoholic hallucinosis and in a case of simple melancholia would seem to need supplementing by tests that do.

The findings of Prof. Spearman's school to amentia are more established than in the case of acquired disorder. They would suggest that any particular "intelligence test" is sound in so far as score corresponds to *g*; the degree in which success is dependent upon *g* can be shown to vary much from one standard test to another.

The Abilities of Man contributes accurate evidence to the solution of a host of everyday questions. Excluding definitely pathological cases, accurate measurement of *g* would appear to show that the relative amount of this possessed by the same children at different ages is remarkably constant. The hope of teachers and parents that a child of eleven or so who has been accurately measured will ever rise to a much higher standing as a late bloomer would seem to be illusory.

At 15–16 years, growth of *g* definitely ceases. More consoling to the middle-aged is the finding that it normally retains its maximum

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level unaltered right up to the end of life (or at least until obvious senility). Among the findings likely to find political employment are those showing the high average intelligence of the English race and those which indicate how closely natural gifts of children correspond with the status of their parents. Differences in cognitive capacity according to sex are found to be very small compared with those of character.

Space alone prevents reference to numerous other conclusions of practical and theoretical importance contained in this remarkable book. It only remains to say that it achieves the almost incredible feat of combining mathematics with humour.

EDWIN MAPOTHER.

The Psychology of Reasoning. By MIRIAM FRANCES DUNN. Studies in Psychology and Psychiatry from the Catholic University of America, Edited by Edward A. Pace. Pp. viii + 141.

This interesting little piece of research is the first number of the new periodical mentioned above. A historical outline is given in which some philosophical and non-empirical theories are quoted. The experimental work there mentioned is not complete, but more space is given to the discussion of the theories of some of the more prominent logicians. The second part of the book is occupied by an account of the author's experimental investigation. The procedure consisted of reading to the subjects actual legal cases, or giving to them simple geometrical problems. Long lists of questions, based upon the views of logicians and psychologists, are given which were put to the subjects to answer —twenty-seven questions on the major premise, eleven on the minor premise, and twenty-seven on the conclusion. The results are given in tabular form, first for the questions relating to the major, then those on the minor premise, and finally those on the conclusion.

The general results, as found by the author, are essentially as follows: The presence, although often subconscious, of a major and a minor premise seems essential, and they must always be regarded in relation to each other. There is no universal sort of relationship between subject and predicate in a proposition, and more than one kind of relationship may be recognized as existing in the same proposition. In every case the major was regarded as a law or rule from which to infer, although very often not explicitly or focally conscious before arriving at the conclusion. The minor premise, in contrast to the major, is not a part of the subject's general mental stock, in the sense of being a general principle or theory. The conclusion in all cases accepting the premises was satisfactory and seemed true and the only possible one. Analysis or synthesis was employed in the majority of the arguments, and analogy in a small percentage. There seems to be no account, universally holding in all its details, of such a complicated process as that of reasoning or drawing conclusions. The psychological mode of appearance of the premises may be described as conceptional, in contradistinction to sensory or imaginal. The formal essential

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character of reasoning may be regarded as the insight into the necessary truth of the conclusion as dependent on the premises. This insight is an intellectual non-sensory experience.

These results may be very interesting, but it would be a mistake to regard them as those of trained introspection. If the author had had the assistance of trained psychologists as subjects she would have been told that the task put to them was an impossible one. It is impossible to keep up a sustained and close introspection during the reading of a lengthy case, and still more impossible to give a reliable account of it for the protocol at the end. The questions, too, are leading questions. What we have here are, in the reviewer's opinion, the results of reasoning upon reasoning, but not of true psychological introspection. A. WOHLGEMUTH.

A Synthetic Psychology or Evolution as a Psychological Phenomenon. By PERCY GRIFFITH, M.Inst.C.E., M.I.Mech.E., F.R.San.I. London: John Bale, Sons & Danielsson, 1927. Demy 8vo. Pp. xii + 214. Price 7*s.* 6*d.* net.

The author, a water engineer, tells us in the preface that "the publication of the book involved the exercise of faith in both the author and the publisher." This we are quite prepared to believe, but when the author "demands tolerance and patience from the reader," we think he is asking too much. He has apparently read a fair number of psychological works, for numerous references are given, but he was evidently ill-prepared for his mental pabulum, with the result of intellectual indigestion. It would be idle to attempt to criticize the book. *Ne sutor ultra crepidam.*

A. WOHLGEMUTH.

Psychological Studies. By THEODOR LIPPS, translated by HERBERT C. SANBURN. London: Baillière, Tindall & Cox, 1926. Medium 8vo. Pp. 333. Price 27*s.* net.

Three different subjects are treated in these studies. In the monograph upon "The Space of Visual Perception" the problem is stated as follows: If it is true that we arrange the images in our optical percept of the real world about us in the order in which the objects are arranged, side by side, spatially in the world, *how*, in point of fact, does this correspondence actually occur?

Various well-known theories are fairly considered and rejected. Lotze's conception of the "local sign" in the separate retinal points is proved to be unsatisfactory from consideration of the corrections acquired in persons the victims of squint, and in such of these as undergo the removal of the squint by operation. Moreover, as it is possible to correct the distortion—the dioptric metamorphopsia—consequent upon the wearing of Wundt's prismatic glasses, local signature must be capable of adaptation. This alone destroys any theory that each retinal point adds a peculiar quality of spatiality which differs only

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in this respect from any other given retinal point, merely in virtue of its special position in the retina.

The eye-movement theory of spatial differentiation, though superficially attractive, does not survive the observation that different movements may result in an identical spatial judgment. Thus, the eyes may examine an object on the right, by turning to the right; or, the eyes being fixed, the head may turn in this direction; or finally, the head and eyes being fixed, the trunk may move in the requisite direction. In these instances, although different movements are carried out, the same spatial differentiation will occur in respect of the object examined. Moreover, the judgment that an object is to the right must be *antecedent* to the movement, and is indeed the cause and not the result of this movement.

Lipps submits that the following must prove a more justifiable account of the process of spatial differentiation. He argues that contiguous retinal points are aroused by like objective stimuli, with a frequency in direct proportion to their proximity to each other, and that *spatial fusion* tends to take place according to the frequency with which these contiguous points are excited together. Thus, an orange is differentiated as such from the space continuum, because the contiguous points of the retina excited result in a fusion of sensations of size, shape and colour which occur so frequently together against varying space surroundings that they fuse and come to be considered as a unity.

In the second essay upon "Musical Consonance and Dissonance," Lipps espouses the theory of vibration-ratios to account for consonance and dissonance. A feeling of consonance is carefully distinguished from merely one of pleasure, and in this respect Lipps anticipated the views of composers like Stravinsky (and even perhaps our jazz-band creators) in declaring that a *soupçon* of dissonance may result in greater pleasure. Thus, there exists perfect consonance between the harmony of a tone and its octave; there is less perfect consonance between a tone and its fifth or its third, but the latter yield greater pleasure.

Consonance stands in lawful relationship of dependence to the ratios of the physical vibration-sequence from which tone-sensations result. Thus a tone "C" arising from a sequence of 100 vibrations per second is consonant with its octave "C" arising from a sequence of 200 vibrations a second, but is less consonant with its fifth "G" arising from a sequence of 150 vibrations per second, while with its seventh "B" the ratio of 8 : 15 results in dissonance.

The final essay upon "Psychic Relativity and Weber's Law" is not quite so important as the others. One illustration, however, may be given of the author's acute psychological insight. According to Weber's law the increase in intensity of sensation is related to the "increase" of stimulus in a fairly definite manner, but, as Lipps argues, this does not mean that the "increment" of intensity in sensation remains constant, or that the intensity of sensation grows "*by*" absolutely equal amounts whenever the stimuli increase by relatively equal amounts.

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These three essays are important, not only historically, but as an admirable example of the way in which speculative problems should be approached, with a clear differentiation of what can fairly be considered as sense-data from the inferences which they may or may not warrant. In this respect Lipps exercises discrimination like that modern philosopher, Bertrand Russell.

I. FROST.

Speech: Its Function and Development. By GRACE DE LAGUNA, Associate Professor of Philosophy, Bryn Mawr College. New Haven: Yale University Press; and London: Humphrey Milford, 1927. Price $5.00 or 23*s*.

The writer of this book attempts a psychological analysis of speech on the basis of a modified behaviourism. She derives human speech from the animal cry, the latter being considered to have both an implicit proclamatory and an implicit mandatory function. By the development of these two primitive functions and by their further differentiation, the vastly complex phenomena of speech progressively arise. Proclamation, for example, is held to involve predication, so that not only does the cry announce the presence of something, but also what that something is. Predicative proclamation of this kind utilized at first single "words," which were accordingly equivalent to sentences. The primitive predicative cries were, therefore, "sentence-words." The differentiation of the meaning of the various sentence-words and their combination and re-combination into a sentence followed upon increasing liberation of the sentence-words from the immediately perceived situations, as the complex objects to which they referred appeared again and again in new settings. All these developments resulted from the needs impressed by the environment, and the differentiation of names (nouns) from verbs arose from the necessity of specifying not only the object referred to, but the particular action involved. The author finds the principal incentive to the development of speech in the necessity for communication between members of a group. Although speech thus begins as a function of social co-ordination, in its subsequent development it becomes independent of immediate needs, and is capable of intricate elaboration as "internal speech." Thought is the "trying-out in internal speech of new forms of behaviour based on a reformulation of the conditions and ends of action." This looks suspiciously like a circular definition.

Prof. de Laguna has considered it necessary to give an outline of her modified behaviourism, and she makes an interesting defence of the behaviourist position. Emphasis is laid on the functional unity of a "complete act" as the mark of a unit of behaviour, mere movement not deserving to be regarded as such a unit. The use of tools and the use of speech are alike said to depend on an important psychological development—the appreciation of relations between objects not directly related to the individual; but tools involve only relations between things,

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whereas speech primarily implies the perception of relations between persons.

The book is primarily a work of philosophical speculation, rather than the scientific biological study which one had hoped for. It is true that the author disarms criticism by disclaiming both philology and anthropology as outside her purview; but when she seeks to dispense almost entirely with personal psychological observation, and with any contributions that speech-disorders (aphasias) may have to offer, most of the possible interest is taken away. Very rarely she quotes her own experience in child psychology in a way that arouses our interest, but it is only for a moment, and the tedious thread of hypothetical instances spun with such pains-taking ingenuity is relentlessly resumed.

There are in the book a number of stimulating revelations of behaviourist theories. "Representative images" are given a place in conduct. Memory is the revival of such images under the influence of desire and with the co-operation of internal speech. These are interesting hypotheses. The familiar but improbable behaviourist conception of "tentative movements" as the basis of anticipatory mental experience and of all thought processes is made use of.

The book is very well produced. R. D. GILLESPIE.

A Text-book of Psychiatry for Students and Practitioners. By D. K. HENDERSON, M.D.Edin., F.R.F.P.S.Glasg., and R. D. GILLESPIE, M.D.Glasg., D.P.M.Lond. Oxford University Press: Humphrey Milford, 1927. Demy 8vo. Pp. x + 519. Price 18*s.* net.

The writers of this volume are to be congratulated upon the production of an evenly balanced, consistent, judicious and comprehensive text-book of psychiatry. Seeing that mental disease still unfortunately tends to be the battleground for opposing theories, collaboration in a text-book on this subject could scarcely be successful if the collaborators were otherwise than in a state of spiritual accord as far as their psychiatric outlook was concerned. That such a oneness of outlook clearly existed in the present instance is no doubt in a large measure due to the fact that the writers of this volume were both inspired by the same teacher—Prof. Adolph Meyer, Director of the Henry Phipps Psychiatric Clinic. In their preface the authors observe that the biological viewpoint of this distinguished American psychiatrist, which regards mental illness as the cumulative result of unhealthy reactions of the individual mind to its environment, and seeks to trace in a given case all the factors that go to the production of these reactions, has seemed to them to shed fresh light on the nature of mental illness, and to offer new hope in its prevention and cure. Believing therefore in the importance of studying each case from the individual standpoint, the writers have made a point of quoting at length clinical records of cases in their own practice—a feature which certainly, so we feel, invests the text with an

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atmosphere of vitality which is apt to be lacking in formal descriptions of the symptoms of the various types of morbid reaction.

The book commences with a historical review of the care and treatment of mental illness, and in the second chapter the question of classification is discussed. Most readers will agree with the view here expressed that the British official classification should be altered so as to be uniform with that adopted in the majority of other countries. Few psychiatrists now use the classification formulated some years ago by the Medico-Psychological Association, and its continuance gives the psychiatry of this country an archaic flavour which it assuredly does not deserve. The scheme of classification adopted in this volume is simple but adequate, and the authors renounce the rigid notion of disease entities, referring to the different forms of mental disorder as "reaction types," after the manner of Adolph Meyer.

A chapter on ætiology includes discussions on heredity, alcoholism, exogenous and endogenous toxins and infections, physical diseases, fatigue and exhaustion, psychic and physical traumata, age, race, sex and endocrine disturbances as factors exerting an influence in the production of mental disorders. We are inclined to feel that the authors attach insufficient importance to chronic sepsis as an ætiological factor in the psychoses. Exaggerated views have unquestionably been expressed in regard to this matter, but the elimination of septic foci is in many instances followed by improvement or recovery, and there is no doubt the search for and, where present, the treatment of such conditions should be a matter of routine in every case of mental disorder. Whatever may be the exact significance of chronic sepsis in any given case of mental disorder, it is a factor that is at least amenable to direct therapeutic intervention, which is more than can be said for other factors with which it may be associated; we cannot, for instance, cure a psychopathic predisposition or undo the injurious effects of the past upon the psychic life of the patient.

The next chapter deals with methods of examination, and the two following with symptomatology and general psychopathology respectively. In subsequent chapters the clinical syndromes are described under the following headings: Affective reaction types—manic-depressive psychoses and involutional melancholia; schizophrenic reaction-types; paranoia and paranoid reaction types; the organic reaction types; epilepsy; mental defect; psychoneuroses; psychoses and psychoneuroses of war. The authors give an admirable outline of the symptomatology, pathology and treatment of each of the above clinical syndromes.

We are glad to see a chapter devoted exclusively to occupational therapy. Scientifically controlled occupation has now become a therapeutic measure of the greatest value in the psychoses. An account is given of the occupational division that has been organized at the Glasgow Royal Mental Hospital, together with an explanation of its specific purposes. The effect of the treatment in individual cases is described. The concluding chapter is concerned with the relation of psychiatry and law. Here is included very usefully the

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processes necessary for admission as a voluntary boarder or certified patient in Scotland as well as in England. The problem of criminal responsibility is also discussed. It has been a pleasure to read this volume, and we can unreservedly recommend it to students and practitioners as a sound and reliable guide to psychiatry.

H. DEVINE.

Sex Apathy and Coldness in Women. By W. M. GALLICHAN. London: T. Werner Laurie, Ltd., 1927. Pp. 184. Price *7s. 6d.* net.

The well-known author on matters relating to sex provides us, in this volume, with an excellent account of frigidity in women. Such frigidity has far-reaching results, and is the cause of much marital unhappiness. The condition may arise from defect of physical structure, but such an occurrence is rare. Far more frequently we have to deal with psychic frigidity. Mr. Gallichan, following other authorities in this respect, considers that the frequency of frigidity is increasing. The evidence for this view is, perhaps, not entirely convincing. We can only estimate the frequency of the condition. The author holds that many frigid women find their way into the teaching and writing professions, and thus influence, materially, the general public opinion on this subject. Normally-sexed women are, as a rule, silent. So we get the popular but quite erroneous view that sexual desire in women is unusual, and almost pathological. This misconception has, of course, other roots; much of it is due to the quite mistaken idea that the act of sex union is a purely physical affair, whereas it is, actually, bound up with a number of most important psychological factors. In this connection, it is interesting to note that frigidity is commonly found in prostitutes.

The author holds that frigidity may be congenital or acquired. We would not wish to deny the occurrence of the former condition. But it is very hard to separate the influence of the congenital factor from that due to early training. That frigid mothers often produce daughters who suffer from a similar condition does not entirely prove such condition to be congenital. True sex inversion the author holds to be more common in women than in men.

The habit of masturbation is given as being a frequent cause of frigidity. The influence of masturbation, in this as in other directions, is largely due to the sense of guilt which the practice tends to produce. It also greatly increases clitoris sensibility, thus making more difficult the change to vaginal sensibility—a change which is essential, if marital happiness is to be attained.

The book contains a very good chapter on sexphobia. All who have studied the question know how frequent a cause this phobia is of neuroses. The author accepts the modern view that phobia is often the result of repression of sex feeling, and replacement by the opposite condition.

Mr. Gallichan has some excellent remarks on the gross miseducation of women in regard to sex. It is a scandal that many women are allowed to marry, without any understanding of the

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obligations which they are undertaking, and of the results of failure to fulfil those obligations. But it is also pointed out, most truly, that lack of proper education in women is not alone to blame. There is perhaps quite as much need for education among men. Apart from absolute brutality, there is much avoidable trouble occasioned by ignorance and maladroitness on the part of husbands. Fear of an undesired or dreaded pregnancy may be a cause of frigidity. It is not so clear how this education is to be given. Parents and teachers are not entirely to blame. They are, themselves, the victims of their own faulty education. With few exceptions, the books which purport to supply "sex enlightenment" only add to the confusion. This book does not claim to provide such knowledge, but it is a stirring call for unprejudiced investigation of sex questions. The time will come when none will be allowed to enter into the most important and most difficult relation in life without the fullest knowledge of what they are doing. The misery caused by our present system of reticence cannot be endured. Many a man and woman would even now welcome assistance in their grievous difficulties if they knew where such assistance could be sought. It is for our profession to supply the want. But we cannot accomplish our task unless we study the subject.

M. HAMBLIN SMITH.

The Invert. By "ANOMALY." London: Baillière, Tindall & Cox, 1927. Foolscap 8vo. Pp. xxxii + 160. Price 5*s.* net.

This is a small book on the subject of sexual inversion among men written by one who is, himself, an invert. It makes no claim to be a scientific treatise. But it contains a graphic and readable account of inversion, it avoids both unqualified condemnation and sentimental condonation, and it should do something to dispel popular ignorance on this subject.

Our readers do not require to be told that inversion is quite a common condition. The author accepts the estimate given by some modern investigators, that 5% of the male population is definitely homosexual. The condition, in itself, is one for which its possessor cannot be blamed, although he may become blameable, if he is guilty of certain actions of which society disapproves. As a fact, every variety of character is to be found in this social class. The popular view, however, is that homosexuals form a small and well-defined body, the members of which spend their time in committing, or in seeking opportunity to commit, "unnatural" sex offences. This grotesque idea arises from the fact that most people gain their sole knowledge of homosexuality from police-court reports. But the persons who figure in these reports are no more representative of the homosexual class than are hetero-sexual offenders representative of the normally-sexed portion of the community. It is known to all who have any real acquaintance with the subject that very reputable members of society are to be found among inverts, that much excellent work is done by them, and that some of the world's greatest men have belonged to this class; although, as the

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author is careful to point out, there is no necessary connection between inversion and greatness. The author urges that the invert must face the situation, must recognize his limitations, and must endeavour to sublimate his desires into channels which are socially acceptable. He also insists that the invert, or his friends, should seek expert advice as soon as the condition is recognized. But where is the adviser to be found? So intense is the prejudice against homosexuality that many members of our profession have never studied the condition, and know nothing of its manifestations, except those which are generally condemned.

Apart from definite inverts, there exists a far larger number of bi-sexual individuals. We agree with the author in his view that many instances of the more venial kind of homosexual offences, for example those discovered in boys' schools, are committed by bisexuals. The majority of these persons settle down, in time, to a perfectly normal sex life. Here we see the immense importance of a definite diagnosis of the condition with which we are dealing. For marriage must never be recommended to the true invert.

Can inversion be cured? The author admits that he has heard of no reliable method. But Dr. Robert H. Thouless, of Glasgow,* who contributes an introduction to the book, urges that psychoanalysis should be tried. It is quite certain that all other methods of psycho-therapy have proved unavailing. If some necessary conditions are satisfied, the Freudian method may be attempted.

We have given some space to this little book, for its publication seems to us timely. Prejudice has hitherto prevented any real attempt to study the problem of inversion. Accurate information has been most difficult to obtain. Even scientific books on this subject have had to be published with elaborate precautions. All this has tended to deprive the invert of help which he urgently needs; and this has to force him into an anti-social position. But there are signs that there is an alteration in the prevailing attitude. We are recognizing that inversion is as well worthy of scientific study as is any other abnormality. Such study is the first step towards improved treatment. M. HAMBLIN SMITH.

Psychopathologie Sociale. By HENRI DAMAYE, Médicin-Directeur des Asiles d'Aliénés, etc. Paris: Librairie Félix Alcan, 1926. Crown 8vo. Pp. iii + 228. Price 10 Fr.

If Dr. Damaye's criticisms of present-day methods are somewhat depressing, his evident enthusiasm for his subject infuses confidence, while his prognostications for the future of neuro-psychiatry are distinctly exhilarating. It must be admitted that some of the criticisms levelled at French psychiatry might, to a greater or less extent, be applied to our own system. It may, therefore, be profitable to enumerate those defects to which the author calls especial attention:

(1) For many years, he says, psychiatry has only concerned

* Robert H. Thouless, M.A., Ph.D., Lecturer in Psychology, University of Glasgow.—[EDS.]

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itself with the more pronounced mental cases, *viz.*, those which society is forced to rid itself of, or to protect itself from, by placing them in a mental hospital. In consequence of this the scope of psychiatric studies has been restricted. For the patients in mental hospitals only represent extreme cases—only a fraction of the total number of mental affections. By far the largest proportion of mental patients are to be found in society, where one may even encounter numbers of accentuated cases.

(2) The French text-books of psychiatry are similarly lacking in comprehensiveness. They omit a description of the numerous minor forms of mental disorder which are to be met with in the outside world, and the initial stages of the asylum psychoses.

(3) Another defect is that the text-books deal only with psychological studies, excluding biological data. The author maintains that practical anatomy and biology are indispensable to the progress of psychiatry, and that they alone entitle it to rank as a science.

(4) Dr. Damaye does not agree that the psychopaths in mental hospitals should be regarded as entities. He insists that they are a natural transition from the psychopaths outside. Failure to recognize this fact hampers the progress of therapeutics, ætiology and sociology.

(5) A clearer exposition of facts, the avoidance of pedantic and obscure expressions, with more reference to biological data are what the medical and sociological world calls for in the mental text-books of to-day.

The author's views on the sociological duties of psychiatry may be briefly summarized as follows: It should do all in its power for the benefit of society. It should use every effort to cure mental disorders, by biological researches, and increase the number of curable cases. It ought, by means of propaganda, to teach how the weak, the young and the less well-endowed may be protected in their struggle for existence. Psychiatry should also undertake the task of explaining the nature of mental abnormalities and minor mental disturbances with harmful tendencies, so that individuals and collectivities may be forewarned. Finally it is incumbent on psychiatry to take an active part in the prophylaxis of the psychoses and lesser mental disorders.

The author states that social order and the happiness of society cannot be achieved without the aid of neuro-psychiatry. That mental science alone is capable of discovering the origins and causes of the disorders and evils (moral and political) which beset nations and communities. Psychiatry alone is capable of supplying those remedies which can be truly efficacious. At the present time psychiatry is rarely called upon to intervene in social matters. Its intervention is, however, needed in many social, familial and individual activities. Dr. Damaye, nevertheless, predicts that in the course of two or three generations neuro-psychiatry will have extended its reputation, will have made itself known to the masses, and will exert a profound influence on individual and collective life.

NORMAN R. PHILLIPS.

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Diagnosis and Treatment of Venereal Disease. By DAVID LEES. E. & S. Livingstone, 1927. First edition. Pp. xvi + 605. 87 illustrations. Price 15*s.* net. Postage 9*d.*

This compact book is written by one who has a wide knowledge and practical experience of the subject as a teacher as well as a physician. The opening chapter deals with the management of the venereal patient and his relation to those with whom in the future he will come in contact. The subsequent chapters are taken up with the diagnosis of syphilis in its early stages and the pitfalls to be avoided are clearly set out. The importance of bacteriological investigation of the exudate is stressed and the techniques employed mentioned in some detail. The Wassermann reaction is outlined and the extent to which the test may be relied upon, provided the results are read in conjunction with the clinical signs and symptoms. The writer upholds the diagnostic value of the provocative injection with any of the arsenical preparations, especially in early and latent disease. Some useful practical details are also given on the technique of collecting serum and lymph containing the spirochæte from the primary sore or inguinal glands, and the bugbear of the pathologist and practitioner alike—the obtaining of sufficient blood for the Wassermann test—is clearly explained. Chapter IV deals with the condition of generalized syphilis. From the outset the author stresses the importance of realizing that once the spirochæte is past the site of inoculation, no tissue is immune from its invasion. Thus, systematic examination of all the important organs of the body is essential.

On the subject of neuro-syphilis the author rightly stresses the importance of observing the cardinal rule of periodically examining every generalized case for the slightest sign or symptom of neural involvement. The technique given for a lumbar puncture is well worth following, and the practice of preliminary local anæsthesia in preference to freezing or dispensing with anæsthetic aid is commendable. The notes on cisternal puncture, as recommended by Wegeforth and Ayer, are of interest to those wishing to try this somewhat hazardous line of approach.

In the next two chapters the subject of syphilis in pregnancy and the congenital form of the disease are discussed. Chapter IX goes very thoroughly into the general, local and specific treatment. Right at the commencement the author urges the importance of thoroughness, and of regarding each individual patient as an entity. As regards specific remedies, the many preparations are mentioned, and their therapeutic value and toxicity detailed. A preference for the 914 group—sulpharsenol, silver-salvarsan—is shown, but the advantage of combining any one of these with either bismuth or mercury in a course of treatment is emphasized. The correct technique for intravenous and intra-muscular injection is fully explained, and the individual doses and total amounts to be administered in a given time advantageously set out. In the following chapter the symptoms of intolerance to treatment are mentioned, and the most effectual methods of dealing with the occasional but dangerous

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crises are discussed. In summing up, the following precautions are emphasized: careful preparation of the patient, especially removal of focal sepsis, examination for renal efficiency, avoidance of alcohol, care as to dosage and technique, and adequate intervals of rest from treatment.

The chapter dealing with the treatment of neuro-syphilis should be of interest to those in mental work, particularly in regard to adequate treatment by salvarsan and its derivatives, as there has been the tendency, since the introduction of malarial treatment of general paralysis, to overlook the value in some cases of treating the superadded extra-neural lesions on recognized lines. The advantages of combining both lines of treatment are pointed out. Treatment by tryparsamide is favourably reviewed as being safe and of value in relieving the more superficial mental symptoms in certain cases of neuro-syphilis. The beneficial effect is entirely different in operation from the highly anti-spirochætal salvarsan preparation. In spite of being relatively non-toxic, any active pathological process affecting the optic nerve would appear to be a contra-indication to its use. Again, bismuth or mercury can, with advantage, be combined. In the author's experience anti-syphilitic serum is disappointing in its results.

Part II of the book deals in the same clear style with gonorrhœa and its treatment. In the opening chapter the anatomy and minute structures of the male organs are described, and the next two chapters deal with symptomatology and diagnosis, including tests and staining methods, followed by the various techniques of treatment. In the next section of the book the disease as it manifests itself in the female is discussed, and the complications and their treatment dealt with. The frequently difficult task of making a diagnosis between acute abdomen and pyosalpinx is helpfully considered and the attitude to adopt outlined. Other chapters deal briefly with the affection in children, ophthalmia neonatorum and the disease in pregnancy and the puerperium. The final pages are taken up in describing the metastatic complications, especially arthritis. The author rightly stresses the importance of eradicating the focus of infection in the genito-urinary tract, and upholds the value of vaccine and non-specific shock therapy. In formulating the standard of cure, certain definite rules are laid down and should be adhered to in every case. Provocative injections are included as a means of lighting up possible latent infection. The last chapter is devoted to the discussion of the value of vaccines in treatment. The author, without appearing to be biased, upholds the efficacy of vaccines when used scientifically and at the proper time. In his hands they are a valuable adjunct to treatment either in acute or chronic cases. W. M. FORD-ROBERTSON.

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Part III.—Epitome of Current Literature.

1. Neurology.

Venous Angioma of the Cerebrum. (*Journ. of Neur. and Psycho-path., July*, 1927.) *Worster-Drought, C., and Carnegie Dickson, W. E.*

A clinical description and the record of the necropsy are given. Certain noteworthy features of the case are commented on, and coloured drawings of the outer aspect of the right hemisphere and of a vertical coronal section of the cerebrum illustrate the article.

WM. MCWILLIAM.

A Clinical Analysis of an Extra-pyramidal Syndrome; Paralysis Agitans and Post-encephalitic Parkinsonianism. (*Journ. of Neur. and Psycho-path., July*, 1927.) *Young, A. W.*

The author deals exhaustively with 50 cases of the extra-pyramidal syndrome, of which 39 were cases of the Parkinsonian syndrome of post-encephalitic origin, while 11 belonged to the idiopathic type of the disease.

There is a general survey of the cases, giving age at onset, symptoms at the time of the original illness, and symptoms in order of frequency. The author then surveys the ground from the clinical standpoint under the following headings:

General attitude; ocular condition; mouth and tongue; speech; associated movements; simple and combined movements; general motility; and tremor.

He then proceeds to a comparison of the idiopathic and post-encephalitic cases. Testing the synergic action of muscle groups in Parkinsonianism he failed to find any departure from normal. So far from associated movements being absent in the Parkinsonian state, the reverse is the case.

WM. MCWILLIAM.

Subcortical Epilepsy. (*Brain, June*, 1927.) *Spiller, W. G.*

The author describes two cases of brief epileptic motor attacks: in one there were tonic spasms of both hands and one lower limb, in the other case one upper and one lower limb on the same side. These tonic spasms were brought on by voluntary movement of the affected limbs in both cases. Both had a concomitant paræsthesia in the unaffected lower limb, and probably in the affected limb, but this was masked by the intensity of the painful contractions. The second case showed paresis of the right ocular sympathetic. Spiller considers that there is a subthalamic sympathetic centre, and that the oculo-sympathetic fibres do not decussate in the pons or below it in the medulla oblongata or cord.

G. W. T. H. FLEMING.

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The Surgery of Muscular Tonus. A Case of Cervical Ramisectomy [*Chirurgie du tonus musculaire. Un cas de ramisectomie cervicale*]. (*Journ. Neur. et Psychiat., June*, 1927.) *Verbrugge, J.*

In this case of severe Parkinsonianism in a man, æt. 50, following encephalitis, the authors performed ramisectomy on the roots of Cv, Cvi, Cvii, Cviii and Di, with negative results.

W. D. CHAMBERS.

Paralysis of the Ulnar Nerve by Osteophytes at the Elbow [*Paralysie du nerf cubital par ostéophytes du coude*]. (*Journ. Neur. et Psychiat., June*, 1927.) *Divry and Lecomte.*

The paralysis had lasted for 15 years in a woman, æt. 53, and its exact nature was obscure, but was at once cleared up by a radiogram of the elbow.

W. D. CHAMBERS.

Infundibular Tumour with Parkinsonian and Thalamic Syndrome [*Tumeur infundibulaire avec syndrome parkinsonien et thalamique*]. (*Journ. Neur. et Psychiat., June*, 1927.) *Van Bogaert, L.*

This short paper is the description of a case of infundibular tumour in a woman, æt. 46. The interest is in the inter-mixture of symptoms, apparently infundibular, thalamic and extra-pyramidal in origin.

W. D. CHAMBERS.

Early Disorders of Character and Later Motor Disorders in an Encephalitic Child [*Troubles du charactère relationment précoces et troubles moteurs tardifs chez un enfant encéphalitique*]. (*Journ. Neur. et Psychiat., June*, 1927.) *Nyssen, R., and Helsmoortel, J.*

This case is recorded on account of the early appearance of psychic disorder (instability, idleness, threats of suicide, etc.), followed in two years by labyrinthine symptoms without oculomotor reactions, and in four years by muscular hypertonus. The present age of the patient is 15 and encephalitis occurred seven years ago.

W. D. CHAMBERS.

Muscular Tonus—Its Diverse Physiological Meanings [*La tonus musculaire—ses diverses acceptions physiologiques*]. (*L'Encéph., June*, 1927.) *Bard, L.*

In this long paper the past and present state of knowledge of the subject of muscular tonus is exhaustively considered. The author believes that the confusion which surrounds the term is due to its employment in describing diverse physiological activities—*e.g.*, the independent contractile functions of the myofibrils and of the sarcoplasm. He concludes that the use of the term should be restricted to describe the state of the muscle in repose, and that all other physiological muscle states should be given appropriate names.

W. D. CHAMBERS.

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Tumour of the Hypophysis with an Adiposo-genital Syndrome and Acanthosis Nigricans [*Tumeur de l'hypophyse avec syndrome adiposo-génital et acanthosis nigricans*]. (*Journ. Neur. et Psychiat., June*, 1927.) *Van Bogaert, L.*

A case of hypophyseal tumour with adiposity and cutaneous dystrophy and pigmentation which was greatly improved by radiation of the hypophysis. W. D. CHAMBERS.

Hæmatomyelia with a Residual Syringo-myelic Syndrome [*Hématomyélie à syndrome résidual syringomyélique*]. (*Journ. Neur. et Psychiat., June*, 1927.) *Delbeke, M. R.*

In this case a sudden hæmatomyelia about the level of Civ or Cv was followed by symptoms indicating syringomyelia, and the author discusses the possibility of a like origin in other cases of the latter disease. A similar case is described in the same paper.
W. D. CHAMBERS.

Double Progressive Athetosis [*Athétose double progressive*]. (*Journ. Neur. et Psychiat., June*, 1927.) *Philips, Sweerts and Koumans.*

A case of progressive athetosis in a child æt. 9 is described and discussed. W. D. CHAMBERS.

Diabetic Tabes, so-called. (*Med. Journ. Austral., July* 17, 1926.) *Bostock, John.*

Commenting on a case of tabes and diabetes, a full description of which is given, the author remarks that on the whole the patient's signs and symptoms suggest that previously a diabetic peripheral neuritis obscured the picture. As this faded, two separate lesions were seen to be present, namely *tabes dorsalis* and *diabetes mellitus*. The inference was strengthened by later serological finding, while no response had been obtained to the Wassermann test of the blood, a slight reaction occurred in the cerebro-spinal fluid.

Speculation still, however, remained. Was the diabetes entirely pancreatic, or was a medullary lesion partly responsible for the symptoms? Was there a causal relationship between the tabes and the diabetes, or were they independent lesions? In the production of tabes might a sugar metabolic disturbance be the exciting factor? It was impossible to say with certainty whether *tabes dorsalis* or *diabetes mellitus* was the first to appear.

Tertiary lesions in viscera were rare in syphilis of the nervous system, but it was possible that the diabetes was due to a syphilitic pancreatitis. J. R. LORD.

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2. Psychology.

Punishment as a Moral Agency: An Attempt to Reconcile the Retributive and the Utilitarian View. (*Mind, July*, 1927.) *Ewing, A. C.*

The retributive idea may be defined as the view that punishment is of value not mainly because of any good consequences it

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may produce, but as an end in itself. The author criticizes this. He discusses punishment and systems of punishments in their many aspects. He agrees with the retributive view. He insists that punishment is and ought to be essentially for a past offence. The valuable element in punishment is not the pain inflicted in proportion to desert, but the moral disapproval implied thereby.

WM. MCWILLIAM.

A Memory going back to the Age of Six Months. (*Internat. Zeitschr. f. Psychoanal., Bd. xii*, 1926, *Heft* 1.) *Farrow, E. Pickworth.*

The author, after psycho-analysis by two practitioners of that method, adopted a system of self-analysis, which took the form of writing down his free associations. By this means he recovered the memory of an event which occurred at the age of six months. He was sucking at his mother's breast, when his father removed him therefrom. He greatly resented this, and kicked vigorously at his father. The ineffectual result he regards as his earliest defeat, and as dealing a severe blow to the infant's belief in his own omnipotence, of which Ferenczi has told us so much. The relations to the Œdipus complex are clear. The repression of the incident acted as a basis for various neurotic manifestations in later life, which were cleared up by analysis. Reasons are given for regarding the memory as being that of an actual experience, and not a fantasy.

M. HAMBLIN SMITH.

The Dream in the Light of a New Conception of Consciousness. (*Australas. Journ. of Psychol. and Philos., March*, 1927.) *Bostock, J.*

Dementia præcox may be described as a "frozen dream." The phenomena of dreams and of dementia præcox may be explained by assuming the existence, in normal consciousness, of three centres —for simple awareness, for emotion and for fine adjustment, respectively. Sleep is due to the dissociation of these three centres. The dissociation, or re-association, is not always instantaneous, and in this case dreams result. The guiding principle of dream life is to make adjustment to some end. Dreams are of three varieties, according to the centre which predominates; each variety may exist in pure form, but the majority of dreams are composite. The vividness of dreams depends upon the amount of awareness in their composition. The "night-mare" is the most usual type of emotional dream. There are also "detail dreams," in which cerebration of a high order is possible, owing to freedom from waken emotional focus. In waken life our ideas are harnessed to emotion, and can only travel along a well-defined roadway. If emotion is taken away the picture is entirely changed. McDougall's view, that instinct is the mainspring of activity, and that emotion is something associated with instinct, is rejected. Some of the author's dreams are described in support of his contention. In some dreams we come into contact with several distinct sets of ideas, which cannot come into consciousness at the same time. At

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the instant of awakening, the appropriate emotion of none of these sets of ideas is in alignment, so the imagery will be taken from all, at their point of contact. Dreams are not the playground in which the libido can work off its repressed energy. The only utility of dreams is to give a possible clue to emotional disturbances, or as a convenient test for a theory of consciousness.

M. HAMBLIN SMITH.

1. *Psychiatry as an Objective Science.* (*Brit. Journ. of Med. Psych., vol. v, pt.* 4, 1925.)
2. *The Laboratory Method in Psycho-analysis, Its Inception and Development.* (*Amer. Journ. of Psychiat., January*, 1926.)
3. *Psycho-analytic Improvisations and the Personal Equation.* (*Psycho-anal. Rev., April*, 1926.)
4. *Our Social Evasion.* (*Med. Journ. and Record, June*, 1926.)
5. *Our Mass Neurosis.* (*Psychol. Bull., June*, 1926.)
6. *Insanity a Social Problem.* (*Amer. Journ. of Soc., July*, 1926.)
7. *Psycho-analysis in Theory and in Life.* (*Journ. of Nerv. and Ment. Dis., September*, 1926.)
8. *The Re-absorbed Affect and Its Elimination.* (*Brit. Journ. of Med. Psych., vol. vi, Pt.* 3, 1926.)
9. *Speaking of Resistances.* (*Psyche, January*, 1927.)
10. *The Need of an Analytic Psychiatry.* (*Amer. Journ. of Psychiat., January*, 1927.)
11. *An Ethnic Aspect of Consciousness.* (*Soc. Rev., January*, 1927.)

The above reprints have been forwarded by the author, Dr. Trigant Burrow, of the Johns Hopkins Hospital, Baltimore. This enthusiastic psycho-analytic writer has made some interesting contributions to the subject, and MacCurdy, in his *Problems of Dynamic Psychology*, draws attention to the fact that Burrow must be given credit for the development of the two fundamental principles of the primary subjective state and primary identification with the environment which he regards as deeply vital factors influencing the mental growth of the infant. Unfortunately the writer's literary style is so diffuse that his points are frequently most difficult to grasp. It is by no means feasible to review his papers in their entirety, but only to speak of the main purport running through them. The following conceptions are instanced:

As a psychiatrist confronts the direct objective data comprising the immediate subjective state of the individual before him, these same states existing in socially repressed form within the psychiatrist tend to cloud his clear laboratory observation of the subjective states in question. It is, therefore, imperative that conditions are secured for a definite laboratory technique in the observation of psychiatric material. Psycho-analysis has been concentrating its efforts to improve methods of applying its principles. "The individual must be recognized as part of a common societal organism, and experimental test has provided an instrument for the wider development of psycho-analytic aims. Until a social analysis permits each of us to recognize the presence within himself of all

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the substitutive anomalies and mental digressions which he now represses, psychiatrists and psycho-analysts must continue to substitute the tedious ratiocinations and private improvizations that are based upon the personal equation inseparable from our common societal repression." We have failed to compass the true meaning of our individual analysis through not including a consideration of the individual's phyletic substrate as a social organism. There is a significant discrepancy between the analytic attitude to an individual and the completely non-analytic attitude when confronted with the same neurosis in its collective manifestations. Psychiatry remains blind to the fact of mental disease within the social mind. Insanity is a social problem, and society must accept its responsibility for mental affection of the individual through the analysis of the factors contributory to it on its own part. The essential basis of consciousness is posited in a socially organismic continuum. "If, then, there is present an instinctive societal bond within the life of man which has been repressed by him from its due acknowledgment in his societal consciousness, it follows that the disorders represented by the psychoses and neuroses are due to the repression of this instinct of man's tribal life as well as to the repression of the individual's sex instinct. The logical recourse is a societal analysis that will permit the envisagement of our social complexes in a manner comparable to the analysis that now permits the envisagement of complexes as they occur within the individual."

A great deal that has been said by this author might have been condensed into a much smaller compass. The crucial points are at times almost lost in the profuseness of expression.

C. STANFORD READ.

Scrupulosity and "Folie du Doute" [*Scrupule et Folie du Doute*]. (*Ann. Med. Psych., April*, 1927.) *Nathan, Marcel.*

The author believes that scrupulosity and the allied disorder "folie du doute" arises in the children of dictatorial and authoritative parents, as a result of a severe and repressive mode of up-bringing. In early childhood the rigorous attitude of the parents causes the child much heart-searching. It stifles initiative and causes the child to consider every act as bristling with insurmountable difficulties, and leads him to imagine that he is doing wrong in everything he attempts. Hence the child, so far as his conduct is concerned, erects an entirely false standard of values.

J. S. ANNANDALE.

On the Methods of Examining the Conditioned Food Reflexes in Children and in Mental Disorders. (*Brain, June*, 1927.) *Ivanov-Smolensky, A. G.*

The author describes his work at the Hertzen Pedagogical Institute and the Military Medical Academy in Leningrad. After the conditioned reflex to food was established, all four kinds of internal inhibition, extinguishing, differentiating, conditioned and retarded were studied. From the experiment Smolensky distinguished three

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groups of children: (*a*) children with a healthy nervous activity in whom positive and inhibitory conditioned reflexes are formed quickly and remain stable; (*b*) children with feeble internal inhibition, *i.e.*, those in whom nervous irritation is predominant; (*c*) children in whom cortical inhibition is more prominent than irritation. G. W. T. H. FLEMING.

The Faculty of Imagination. (*Brit. Journ. of Psych., Monog. Suppl.*) *Hargreaves, H. L.*

The author of this mongraph sets out to discover whether imagination used in the sense of the capacity for creative or inventive thinking is an entity or a combination of group factors already known. Originality as measured by the uncommonness of the subjects' responses was the qualitative aspect chosen and fluency the quantitative aspect. Full experimental details are given with necessary correlations. The author finds a fairly high correlation between "fluency" and intelligence tests. The fluency tests contain na appreciable amount of the general factor "*g*," and have in addition a considerable group factor which seems common to them all. Fluency is compound, the main element being speed, but there is in addition a small memory element and an unknown quantity. Fluency of imagination therefore = "*g*" + speed + memory + *x*.

Originality has very little relation to "*g*," but has a common group factor, which is compound, slightly related to memory, and has other elements in common with the fluency group factor. This common factor is *x*.

Originality tests also have possibly a factor, "*z*," peculiar to themselves. The author thinks that the speed and "*x*" factors of fluency might be due to the absence or diminution of inhibiting factors, such as self-criticism, and seemed to be comparable to the flight of ideas in the manic phase of manic-depressive insanity.

G. W. T. H. FLEMING.

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3. Psychiatry and Clinical Psychiatry.

On Palilalia. (*Journ. of Neur. and Psycho-path., July*, 1927.) *Critchley, M.*

The author places on record descriptions of seven cases of this interesting phenomenon, first described by Souques in 1908. Of the seven cases, four belong to a post-encephalitic group and three to a cerebral arteriopathic group. The essential features of the phenomenon are self-repetition, acceleration of speech and increasing inaudibility. The article is dealt with under the headings, "The Clinical Aspect," "Localization," and "Pathological Physiology."

WM. MCWILLIAM.

Gastro-intestinal Motor Functions in Schizophrenia (*Roentgenologic Observations*). (*Amer. Journ. Psychiat., July*, 1927.) *Henry, G. W.*

The author reports on the gastro-intestinal motor functions in schizophrenia. He excludes patients suffering from physical illness.

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He followed the same procedure in each case—a laxative and an enema the night before observations were begun, a barium meal early next morning, and in half-an-hour fluoroscopic examinations and radiograms of the stomach and duodenum were made in the erect and prone postures. No food was permitted till a six-hour radiogram was taken. Thereafter the meals were the usual hospital routine. Twenty-four hours after the barium meal and for six consecutive days, radiograms were taken in the two postures.

He concludes that definite changes in gastro-intestinal motor functions are found in schizophrenia. They are somewhat characteristic of the different clinical types. The more acute the psychosis is, the more abnormal are the changes. The gastro-intestinal motor functions are normal in chronic deteriorated cases of schizophrenia. The visceral reaction to intense emotions in acute schizophrenia is analogous to that observed in the lower animals during fear, rage, or other intense emotions.

The article is illustrated by reproductions of several radiograms.

WM. MCWILLIAM.

The Onset of Schizophrenia. (*Amer. Journ. of Psychiat., July*, 1927.) *Sullivan, H. S.*

A study of onset in male patients of the Sheppard and Enoch Pratt Hospital, Baltimore, which seems to establish two factors preliminary to schizophrenic psychoses: Firstly, the appearance of the disorder is late in a long series of subjectively difficult adjustive efforts; and secondly, it seems never to occur in those who have achieved, if only for a short time, a definitely satisfying adjustment to a sex object.

These conclusions are illustrated by the series of case-records quoted at length in the article, the psychological view-point of the psychoses being fully stressed. WM. MCWILLIAM.

Heredity Relations in Schizophrenia. (*Amer. Journ. Psychiat., July*, 1927.) *Barrett, A. M.*

In a lengthy article Dr. Barrett deals with the importance of heredity as a factor concerned in the ætiology of schizophrenia. The results of his researches are usefully summarized in tabular form, and charts are provided to illustrate his clinical records.

The following points are taken from his summary: (*a*) In a series of 150 unselected cases of schizophrenia there were 117, or 78·01%, that had heredity.

(*b*) The most frequent tainting factor is a psychosis. This occurs among the mental abnormalities of the antecedents and members of the families in a percentage of 43·22.

(*c*) Mental abnormalities occur much less frequently among the parents of schizophrenic patients.

(*d*) Schizophrenia has its heaviest heredity tainting in antecedents who are in indirect relationship to the patient.

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(*e*) The factor that is transmitted seems to be of complex rather than simple Mendelian character.

(*f*) There is no certain evidence that the heredity course in schizophrenia is in any way sex-linked. WM. MCWILLIAM.

Psychiatric Etymology. (*Amer. Journ. of Psychiat., July*, 1927.) *Bunker, H. A.*

In his interesting caption, "Unless ye utter by the tongue speech easy to be understood, how shall it be known what is spoken?" Dr. Bunker in original fashion prepares the way for his thesis. Briefly he outlines the development of the English language as one long history of borrowing from other languages, together with the various periods at which such occurred. He then proceeds to deal with words used in psychiatry, some 94 being expounded in alphabetical order, of which "Mind" is taken as an example:

"Mind.—Middle English *mynd*: representing the Anglo-Saxon *gemynd*, the same word as the Old High German *gimunt*, Gothic *gamund*, memory. The primary meaning of *mind* is *memory*—as seen in such phrases as *to bear in mind, to call to mind, time out of mind.* It came also to mean *thought, purpose, intention*—as in *to know one's mind, to have a mind to.* Finally it meant 'mental or psychical being or faculty' in general; 'the seat of a person's consciousness, thoughts, volitions and feelings'; and, in more restricted application, 'the cognitive or intellectual powers, as distinguished from the will and emotions.'" WM. MCWILLIAM.

Occupational Therapy at the Glasgow Royal Mental Hospital, Gartnavel. (*Occup. Therap. and Rehabil., October*, 1927.) *Melrose, A. H., and Thomson, A. G. W.*

Miss Melrose and Dr. Thomson contribute an article on the work of the Occupational Therapy Department at Glasgow Royal Mental Hospital, which gives some idea how such a department should be conducted so as to be efficient and profitable to patients and teachers. It must be gratifying to be able to write: "I do not know of any one patient that our occupational therapy department has not helped in some way, and it is an encouraging fact for us that a department on the same lines has now been inaugurated at the Aberdeen Mental Hospital."

Some account is given of the classification of the various patients and of the work suitable to them. The class-rooms are described, and there are excellent photographs of the Pavilion and its interior—excellent in that they illustrate the brightness of the class-rooms, and that they show varied examples of finished work as distributed throughout the Central Hall.

Several cases are quoted which are clinically very interesting and demonstrate the practical value of occupational therapy.

The department at Gartnavel does not confine its activities to the handicrafts, but in addition encourages the development of

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the musical talents of its patients, and prides itself on its "socializing influence." The authors "try to guard against providing mere occupation, rather aiming in each case to give craft work that will stimulate and hold the interest of the patient; work that will attract on its own merits, and will be carried out not only for the pride of achievement the finished article will yield, but for the pleasure given by the development of each stage of the process —wherever possible developing individual taste and originality of design and idea, remembering always that it is not so much *what* is being done as to *how* it is being done." WM. MCWILLIAM.

The Rationale of Occupation Therapy from the Psychological Standpoint. (*Occup. Therap. and Rehabil., August*, 1927.) *Boltz, O. H.*

The psychological pattern of the individual patient and the intrapsychic balance of energies and the sublimation of these various energies are points which are stressed by the author in his paper. The energy discharge of schizophrenics "through the emotional and impulsive patterns is inhibited, and results in a damming back and relative accumulation of energy which may discharge itself in delusions, hallucinations, or become invested upon some postural attitude, or may periodically be dissipated in aimless attacks or explosions of excitement." It is the author's view that "occupational therapy aims to harness such aimless motor activity to some form of useful work. WM. MCWILLIAM.

A Medico-Administrative Account of a Previndicant Paranoiac [*L'Histoire medico-administrative d'un paranoiaque revendiquant*]. (*Ann. Med. Psych., January*, 1927.) *M. Laignel-Lavastine and Delmas, Achille.*

The patient described was an eminent professional man, who, over a period of two years, formed a system of persecutory ideas directed against his wife and family. This resulted in constant domestic squabbling and scenes of violence and eventually to homicidal threats on the part of the patient, who openly carried a revolver. In his professional and in his social life his behaviour was normal; he was respected by his neighbours, his colleagues and his friends, but at home he behaved like a tyrant, tormenting and terrorizing his family by threats and even by actual violence. At this stage he was certified insane. Placed in an institution he behaved like a lamb, and looked on himself as a martyr. He excused his conduct on the grounds that the behaviour of his family was such as to justify his actions, and that he carried the revolver as a means of defence against his enemies. His influential friends immediately intervened, and he was removed within seven days on condition that he agreed to live apart from his family, and that some responsible person would undertake to exercise proper surveillance over him. J. S. ANNANDALE.

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The Psychiatric Work of Kraepelin [*L'œuvre Psychiatrique de Kraepelin*]. (*Ann. Med. Psych., April*, 1927.) *Halberstadt, G.*

The author reviews Kraepelin's contribution to clinical psychiatry and discusses its value from the point of view of the development of our specialty. He points out that Kraepelin considered the mode of evolution and the terminal condition to be almost specific in each type of mental disorder, and therefore of prime importance as regards classification and prognosis.

The author deals fully with Kraepelin's classification, and particularly with dementia præcox and manic-depressive insanity, and indicates the regard for detail which characterized his clinical descriptions. He emphasizes also Kraepelin's disbelief in and conspicuous distrust of psycho-analysis, and his disapproval of attempts to explain schizophrenia on the basis of Freud's theories. The procedures of the Psycho-analysts he dubbed "Metapsychiatry."

In Halberstadt's opinion, although Kraepelin's fame has suffered a slight eclipse since the war, owing to the development of the theories of Freud and Kretschmer, yet his work was soundly based on facts accumulated by hard, painstaking and methodical investigation. He considers that Kraepelin was an alienist of genius and that time will confirm this estimate. J. S. ANNANDALE.

Clinical Contribution to Drug Addiction: The Struggle for Cure and the Conscious Reasons for Relapse. (*Journ. of Nerv. and Ment. Dis., July*, 1927.) *Kolb, L.*

The relapse of drug addicts is mainly due to the same cause that is responsible for their original addiction, namely, a pathological nervous constitution with its inferiorities, pathological strivings, etc., from which narcotics give sense of relief. The inebriate impulse is the most important cause of relapse. Nearly all addicts make sincere efforts to be cured during the early period of their addiction—many of the cures taken later are mere matters of expediency and are insincere in effort. The hope for cure wanes as time passes and the force of habit, numerous memory associations and increasing physical dependence on opiates are added to the original nervous pathology. In some very nervous persons who have been addicted to an opiate for many years, withdrawal of the drug may produce hysterical symptoms or hypomania lasting several months. G. W. T. H. FLEMING.

The Onset of Post-encephalitic Parkinsonianism. (*Edin. Med. Journ., April*, 1927.) *Steel, John P.*

The author gives an interesting description of seven cases admitted to the County Mental Hospital, Winwick, Warrington, who at varying periods after admission were noted to be suffering from Parkinsonianism.

The author states that there was no evidence of this on admission, and no history of an acute attack of epidemic encephalitis in any of the cases. The first sign observed in all seven cases was a

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spasticity of one or other arm, forearm and hand. This is distinctly unusual, and it is possible that the early signs of Parkinsonianism, *e. g.*, bradykinesia, bradyphrenia, immobility of facies, may have been present and considered due to the melancholia which the author states was commonly in evidence. The other common mental state found in his patients he calls a confused mania—an unfortunate expression if it refers to the apache type of Parkinsonianism which, from his description, it would appear to do, as this is a fundamentally different condition from mania. The melancholia usually found in such cases is of the reactive depression type, the patient feeling the increasing mental and physical disabilities of Parkinsonianism an intolerable burden. This depression is commonest in the early stages of Parkinsonianism and suicidal attempts often lead to certification. Like other reactive depressions, it tends to clear up, and (it is often not till then that) the physical signs of Parkinsonianism become evident. This doubtless explains the author's observation that "with the onset of the mask-like face a mental improvement takes place"—a statement which, as it stands, is somewhat misleading, as it suggests that the lifting of the depression is dependent on the advance of the disease.

The author rightly draws attention to the importance of looking after the general health of these patients.

P. K. McCowan.

1. *Observations on the Unreliability of Subjective Reports of Emotional Reactions.* (*Brit. Journ. Psych.* [*General Section*], *vol. xvii, Pt. ii, October*, 1926.) *Syz, Hans C.*
2. *Psycho-galvanic Studies in Schizophrenia.* (*Arch. of Neur. and Psychiat., vol. xvi, December*, 1926.) *Syz, Hans C.*

These two papers are based on painstaking work done at the Psychological Laboratory, Henry Phipps Psychiatric Clinic, Johns Hopkins Hospital. In the first the psycho-galvanic reflex was tested in a group of normals by means of stimulus words, and an attempt was made to correlate the responses obtained with the subjective feelings reported by the subject. It was found that the words which the subject thought of emotional significance had no regular correspondence with the words which actually were of emotional significance as shown by the objective evidence of the psycho-galvanic reflex. It was further found that not only was the awareness of emotional reactions inexact, but that it varied according to the topics involved, depending largely on social and personal prejudices concerning each individual topic, *e.g.*, few subjective emotional responses were acknowledged in response to words of sexual significance, though psycho-galvanic responses were frequent, whereas the opposite was found with such topics as parents and ambition.

This unreliability of subjective accounts of emotional experiences is an almost insurmountable difficulty in a scientific investigation of emotional reactions from the subjective side. He points out on the other hand, that objective investigations give no information as to

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the differential features of emotional states, *e.g.*, as to whether we are dealing with fear, rage or pain, and rightly concludes that each level of integration (physio-chemical, physiological, psychological) must be investigated by methods adapted to the nature of its own specific level.

In the second paper psycho-galvanic reactions show a certain correspondence and consistency in the different clinical groups of schizophrenics tested, *viz.*, paranoid, catatonic and depressed, and these are compared with the reactions obtained in controls. The findings correspond closely to what would be expected from our clinical knowledge of these patients. Thus the paranoid schizophrenic shows few reactions to the experimental stimuli, but many spontaneous reactions presumably due to endogenous stimuli. In the depressed type somewhat similar results are obtained, but with a greater regularity in both the galvanic and respiratory curves. Catatonic stupor cases showed a very high skin resistance, few reactions, and these very slight, even to a pin-prick. This is in keeping with their emotional detachment. Photographic records of the galvanic responses and numerous diagrams add considerably to the lucidity of the paper. P. K. McCowan.

The Pathogenesis of Writers' Cramp: A Test of Re-education [*Pathogenie de la Crampe des écrivains: Epreuve de la rééducation*]. (*Journ. Neur. et Psychiat., June*, 1927.) *Callewaert.*

Writers' cramp is a hyperkinesia rather than a hypertonia and is of two types—true cramp of constitutional origin, due to faulty technique and curable by re-education, and pseudo-cramp, due to a lesion of the nervous system, simulating true cramp and incapable of cure. The author's method of re-education consists in teaching the patient to achieve complete relaxation of the muscles involved, and to combine the phalangeal movements necessary in writing with the equally important but often neglected movements of the wrist and fore-arm. W. D. Chambers.

Catatonic Syndrome following Cerebro-spinal Inflammation [*Syndrome catatonique post-névraxitique*]. (*Bull. Soc. Clin. de Méd. Ment., May–July*, 1927.) *Masquin, P.*

In the case described flaccid paralysis apparently due to some obscure inflammation in the brain and cord developed in association with a psychotic condition, at first hebephrenic, later catatonic.
W. D. Chambers.

General Paralysis in the Form of a Periodic Psychosis [*Paralysie générale à forme de psychose périodique*]. (*Bull. Soc. Clin. de Méd. Ment., May–July*, 1927.) *Guiraud, M. P.*

After describing a case the author concludes that there exists a periodic, manic-depressive form of general paralysis, with complete remissions. W. D. Chambers.

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Conscientious Paranoia [*Paranoïa scrupuleuse*]. (*Bull. Soc. Clin. de Méd. Ment., May–July*, 1927.) *Courbon, G., and Fail, G.*

In this case of delusional insanity of 10 years' duration the patient, in stating her delusions, was most scrupulous to urge extenuating circumstances on behalf of her supposed persecutors. This partial persistence of the power of objective criticism is rare in paranoia.

W. D. CHAMBERS.

Post-encephalitic Muscular Spasm [*Spasme de torsion post-encéphalitique*]. (*Bull. Soc. Clin. de Méd. Ment., May–July*, 1927.) *Szumlanski, R., and Courtois, A.*

This paper describes a peculiar muscular spasm in a young man, following encephalitis. The site of the lesion and the mechanism of production of the symptom are discussed.

W. D. CHAMBERS.

Hallucinatory Psychosis of Eleven Years' Duration. Remission of Hallucinations since Admission [*Psychose hallucinatoire datant de onze ans. Suspension des hallucinations depuis l'internement*]. (*Bull. Soc. Clin. de Méd. Ment., May–July*, 1927.) *Marchand, L., and Courtois, A.*

The authors report the case of a woman, æt. 70, admitted to a mental ward in 1927, in whom hallucinations of hearing, persecutory ideas and false interpretations had persisted since 1916. Within a few days after admission the hallucinations disappeared, but the persecutory delusions have persisted unchanged. The possible causes of this abrupt change, as well as the ætiology of hallucinations generally, are discussed by the authors.

W. D. CHAMBERS.

Constitutional Perversity or Heboïdophrenia [*Constitution perverse ou héboïdophrénie*]. (*Bull. Soc. Clin. de Méd. Ment., May–July*, 1927.) *Guiraud, M. P.*

The author considers that the class commonly called moral imbeciles is not homogeneous, and following Halberstadt he proposes to distinguish a certain group in this class under the name of "heboïdophrenia." The features of cases are a morose and solitary disposition, attacks of stupor or agitation, marked negativism, stereotypy and motor retardation. The cases thus strongly resemble dementia præcox, though their evolution is different, and the author concudes that the condition he describes must be an early masked form of this disease. W. D. CHAMBERS.

Suicide due to Demential Reasoning and other Kinds of Suicide in Insane Persons [*Le suicide par logique dementielle et les autres espèces du suicide des aliénés*]. (*Bull. Soc. Clin. de Méd. Ment., May–July*, 1927.) *Courbon, P., and Fail, G.*

This paper describes the case of an elderly woman, mildly demented, who was unable to maintain herself and therefore tried to

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commit suicide. It had never occurred to her to seek any help, and on admission to the asylum she was quite contented, because her anxiety was at an end. The author classifies suicide as follows: (1) Arbitrary suicide, as in idiocy, profound confusion, etc.; (2) reflex or impulsive suicide, due to lack of reflection; (3) reasoned suicide, the arguments being based either on hallucinations, delusions or intellectual impairment, or on a sound judgment of the situation. W. D. CHAMBERS.

Lilliputian Hallucinations in the Course of a Subacute Alcoholic Psychosis [*Hallucinations lilliputiennes au cours d'une psychose alcoolique subaigüe*]. (*Bull. Soc. Clin. de Méd. Ment., May–July*, 1927.) *Laignel-Lavastine and Bourgeois, P.*

This paper gives a full description of a case. The patient, a woman æt. 56, suffered from cataract and marked myopia, and these conditions probably played a part in the content of her psychosis. W. D. CHAMBERS.

Juvenile General Paralysis beginning with a Syndrome of Moral Insanity [*Paralysie générale juvénile débutant par un syndrome de "folie morale"*]. (*Bull. Soc. Clin. de Méd. Ment., May–July*, 1927.) *Pactet and Guiraud.*

In this case of hereditary syphilis anti-social conduct became apparent at the age of 8, but the complex picture of general paralysis did not develop until the twentieth year. W. D. CHAMBERS.

Nervous and Trophic Disorders of Barbituric Origin [*Troubles nerveux et trophiques d'origine barbiturique*]. (*L'Encéph., June*, 1927.) *Claude, H., Lamache, A., and Daussy, H.*

This paper describes the case of a woman, æt. 35, who, on three occasions, attempted suicide by increasing doses of veronal, on the last occasion taking 15 grm. and 5 grm. of luminal. The dose was not fatal. In addition to the other symptoms of veronal poisoning polyneuritis developed, and on the tenth day patches of dry gangrene appeared on the right foot. Recovery was slowly taking place when the paper was published. W. D. CHAMBERS.

The Mental State of the Hallucinated and its Two Factors [*L'État mental des hallucinés et ses deux facteurs*]. (*L'Énceph., June*, 1927.) *Bouyer, H.*

In the occurrence of hallucinations the author distinguishes between the "hallucinatory disposition"—a psychic attitude assuming various affective forms—and the "hallucinatory state," properly so-called, of physiological origin. Of the former there are several types, such as the megalomaniac, the classical paranoiac and the hyperemotive or anxious. These two factors are found in varying proportions in all hallucinated patients. The author illustrates his arguments by a schema.

W. D. CHAMBERS.

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Constitutional Factors—Their Diagnostic Value in the Analysis of Disordered Conduct [*Les Facteurs constitutionells—leur valeur révélatrier dans l'analyse des troubles du comportement*]. (*L'Enceph., June*, 1927.) *Wertheimer, F. I.*

This paper includes the description of two cases in support of the argument that the coincidence of certain anthropological and psychological characteristics may have a psychiatric significance. Two individuals sustained in adolescence similar psychic traumata and reacted to them at first by similar maladaptations. Their actual mental breakdowns were, however, widely different, one becoming manic-depressive, the other schizophrenic.

W. D. CHAMBERS.

The Treatment of Epilepsy and of Status Epilepticus [*Le traitement de l'épilepsie et de l'état de mal*]. (*Prog. Méd., July 23rd*, 1927, *p.* 1163.) *Damaye, H.*

The author considers that prior to the discovery of luminal (gardenal) in 1912 there was no treatment for epilepsy, and that this drug is a specific for the disease. Epileptics who, in addition, show signs of vagotonia or sympathicotonia should have in the former a small dose of belladonna for ten days each month, and in the latter borico-tartrate of soda. The treatment must be maintained indefinitely, as any interruption may lead to severe convulsions or to *status*.

Status epilepticus is now rare. The author distinguishes three clinical types—convulsive, agitated and sympathetic, the last marked by fever, arterial spasm and a parched tongue. The two former types should be treated by intravenous injection of somnifen, but in the latter eserine or tartrate of ergotamine should be added to the somnifen. A patient in *status* should be well fed with the tube. Bromide should be avoided in the treatment of all cases of epilepsy.

The author concludes that in the past ten years there has been enormous progress in the treatment of epilepsy.

W. D. CHAMBERS.

Morphology and Temperament [*Morphologie et costitution psychique*]. (*Journ. Neur. et Psychiat., June*, 1927.) *Vermeylen, G.*

This paper is a review of the work done on this subject since the original paper of Kretschmer. It includes references to relevant publications, and concludes with a recommendation to further research.

W. D. CHAMBERS.

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4. Pathology.

The Influence of Asphyxia upon the Action of Convulsant Dyes. (*Journ. of Pharmacol. and Exper. Ther., xxx*, 1926, *p.* 1.) *Syz, J.*

Acid fuchsin was injected into the lymph-sac of a frog in amounts of 0·3 to 1 mgrm. per grm. body-weight, which is safely below the minimum which causes convulsions in a normal frog. Such treated

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frogs were submitted to various asphyxiating agents, such as immersion in imperfectly oxygenated water, liquid paraffin, an atmosphere of nitrogen, and injections of potassium cyanide; all the frogs treated with acid fuchsin reacted by strong convulsions not observed in any of the control frogs similarly asphyxiated. All frogs which reacted by convulsions showed an absorption of the acid fuchsin into the central nervous system, which, although slight, was definitely more than in those which had not showed convulsions. The author ascribes this to a change of permeability of the cerebral capillaries and perhaps the choroid plexus and meninges.

F. A. PICKWORTH.

A Comparison of the Vernes and Wassermann Tests as Applied to the Spinal Fluid. (*Arch. of Neur. and Psychiat., July*, 1927.) *Cornwall, L. H.*

In 62 cases of neuro-syphilis in which the Vernes and Wassermann tests were compared on repeated examinations of the spinal fluid, there was disagreement in 4·8%. The Vernes results conformed to the clinical status of these cases fully as well as (if not better than) the Wassermann. In 91 cases of neuro-syphilis the two tests were compared on only one examination of the spinal fluid from each case. There was disagreement in 15·4%. The Vernes reaction appeared to conform better to the clinical aspects in 8 cases and the Wassermann results better in 6 cases. The Vernes reaction is useful as an index of the character of the syphilitic infection, whether progressive, stationary or regressive, and as an index of the efficiency of therapy. G. W. T. H. FLEMING.

Method for Demonstration of Spirochæta pallida in Single Microscopic Sections. (*Arch. of Neur. and Psychiat., July*, 1927.) *Dieterle, R. R.*

Fresh celloidin or paraffin sections may be used. The time taken for the whole method is very short compared with Jahnel's method.

After cutting sections from 10–15 micra thick from formalin- or alcohol-fixed tissue, place them in 1% uranium nitrate in 70% alcohol at 55° C. for half-an-hour, wash for a moment in distilled water, pass through 96% alcohol, then place each section separately in an absolute alcohol solution of gum mastic (10%) for about 30 seconds. Immerse sections for an instant in 96% alcohol, transfer to distilled water. Now silver for 1–6 hours at 55° C. in 1% aqueous silver nitrate solution, carrying out this procedure without exposure to light, wash for a moment in water and then develop in the following reducing solution for from 5–15 minutes:

Hydroquinone	1·5 grm.
Sodium sulphite	·25 ,,
Neutral solution of formaldehyde (40%)	10 c.c.
Acetone	10 ,,
Pyridine	10 ,,
Water to make	90 ,,

Mix and dissolve these, and then add 10 c.c. of 10% absolute alcoholic mastic solution.

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Wash for a moment in distilled water, dissolve out the mastic and dehydrate by transferring the sections to 96% alcohol and then to acetone. Clear in xylene and mount in Canada balsam. The distilled water must be free from chlorides and all glass ware must likewise be clean. The spirochætes are brown to black, on a beautiful golden-yellow to golden-brown background.

G. W. T. H. FLEMING.

Intradural Spinal Lipoma. (*Arch. of Neur. and Psychiat., July,* 1927.) *Stookey, B.*

The author reviews the literature, and discusses his own case, a child, æt. 11, who had had symptoms for ten years.

He concludes that intradural lipomas are heterotopic neoplasms, probably arising from inclusions at the time of formation of the neural tube. They are usually pure lipomas. The extradural spinal lipomas are usually mixed neoplasms and may be found associated with intradural neoplasms, such as angiomas or gliomas. Most intradural lipomas are both intra-medullary and extra-medullary without any sharp line of demarcation separating the tumour from the spinal cord. When a line of demarcation cannot be readily made out, too strenuous attempts to remove the tumour should not be made. When not removable the capsule should be split and the dura left open. G. W. T. H. FLEMING.

The Pathogenesis of Cerebral Hæmorrhage. (*Arch. of Neur. and Psychiat., June,* 1927.) *Hassin, G. B.*

In a woman, æt. 39, with a positive blood Wassermann, a hæmorrhage from a ruptured aneurysm was followed by numerous blood extravasations in the ipsilateral basal ganglia. The cause of the hæmorrhage in both cases was increased intra-cranial blood-pressure and vascular changes. The aneurysm ruptured first, causing a local fall in the arterial blood-pressure, which caused a rise in the venous blood-pressure and consequent venous rupture, secondary to the aneurysmal rupture. G. W. T. H. FLEMING.

Decerebrate Rigidity following Encephalitis. (*Arch. of Neur. and Psychiat., July,* 1927.) *Weisenburg, T. H., and Alpers, B. J.*

The authors found in a case of post-encephalitic decerebrate rigidity, inflammatory and degenerative changes in the substantia nigra. In the red nucleus degenerative changes were very much more pronounced than inflammatory ones. They consider with Weed, Brown and Wilson that destructive lesions in the red nucleus play an important *rôle* in the production of decerebrate rigidity.

G. W. T. H. FLEMING.

Metastatic Carcinoma of the Central Nervous System. (*Journ. of Nerv. and Ment. Dis., August,* 1927.) *Winkelman, N. W., and Eckel, J. L.*

Twenty-three cases presented by the authors, 7 had their origin in the breast and 5 in the prostate. The metastatic lesions can be divided into four groups—those in relation to the dura, those in

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relation to the nervous tissue itself, those within the perivascular spaces and those within the blood-stream. Most of the 23 cases were in the first group. The metastasis may occur years after the appearance of, or operation on, the primary tumour.

G. W. T. H. FLEMING.

Microcephaly and Diffuse Gliosis: A Clinico-Pathological Study of Four Cases. (*Brain, June*, 1927.) *Freeman, W.*

The author describes four cases of pathological similarity, showing microcephaly, generalized muscular rigidity, with tonic fits and a peculiar, almost noiseless cry and severe idiocy. There was enormous diffuse fibrillar gliosis of parts of the spinal cord, medulla oblongata, pons and mesencephalon, sometimes involving the basal ganglia. The cortex and basal ganglia showed defective development from a cytological and structural point of view. There was a large amount of fat scattered dust-like through the grey matter, both within and outside cells. There was no degeneration of the ganglion cells as in Tay-Sach's disease, no symmetrical degeneration of the sub-cortical white matter as in Schilder's disease, and no cortical hypertrophies or subependymal tumour masses as in tuberous sclerosis.

G. W. T. H. FLEMING.

A Study of the Electrical Skin Resistance and the Psycho-galvanic Reflex in a Case of Unilateral Sweating. (*Brain, June*, 1927.) *Richter, C. P.*

A case with the psycho-galvanic reflex absent on the affected side. This demonstrates the dependence of this reflex on the sympathetic nervous system. It was found that the fast and short deflections occurring one or two seconds after the incidence of the stimulus are set up exclusively by the palm of the hand, while the slow, prolonged deflections occurring about four seconds after the stimulus are produced both by the palm and the back of the hand. The author thinks that the quick phase is probably dependent on the sweat-glands and the slow phase on capillary and epithelial cell activities. The resistance of the skin was higher on the affected side. Pilocarpine, which acts peripherally, produced sweating on the affected side. Some authors would consider this due to stimulation of the parasympathetic and term it vagus sweat.

G. W. T. H. FLEMING.

Forced Grasping and Groping. (*Brain, June*, 1927.) *Adie, W. J., and Critchley, McD.*

The authors describe three cases of frontal tumours, in each of which there was marked involuntary grasping and groping movements in the opposite limbs. They think the lesion is in the upper and posterior part of the frontal lobes. Attention is drawn to the resemblance in the infant of from 3–18 months, whose grasping and groping is not under voluntary control. When the parts of the cortex which subserve the conditioned reflexes are damaged then the unconditioned, less controlled reactions appear.

G. W. T. H. FLEMING.

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General Paralysis and Multiple Softening of the Brain due to Specific Endarteritis [*Paralysie générale et ramollissements multiples du cerveau par endartéritie spécifique*]. (*Bull. Soc. Clin. de Méd. Ment., May–July*, 1927.) *Marchand, M. L.*

In this clinically typical case of general paralysis the brain showed at the autopsy, in addition to the expected signs of general paralysis, large numbers of areas of softening in the cortex, up to the size of a nut. These were clearly due to syphilitic endarteritis accompanying, but distinct from, the paralytic process.

W. D. CHAMBERS.

5. Sociology.

Periodicity of Sex Desire. (*Amer. Journ. of Obstet. and Gynecol., September and December*, 1927.) *Davis, Katherine Bement.*

This is a continuation of the author's research into sexuality in women. The information was derived by means of a questionnaire. The results are tabulated and analysed. No inferences are drawn. Among 1,000 unmarried graduates, at least five years out of college, all but 132 admit some form of sex feeling. Regular periodicity of such feeling was recognized by 272. The group which recognizes periodicity has better physical health, practises masturbation more frequently, and has a higher percentage of present sex problems. The information obtained from a group of 1,000 married women, all of the educated class, was not so complete. But a much smaller percentage had recognized periodicity of desire before marriage.

Desire shows its maximum around the menstrual period—an interesting finding in relation to recent work on ovulation. It also has a bearing upon the "safe time" method of contraception.

Among the unmarried 60% admitted masturbation, 10·5% admitted hetero-sexual intercourse, and 18·4% admitted homosexual experiences. Among the married women, taking only pre-marital experiences, the respective percentages were 38, 7, and 16. In considering these figures, it must be remembered that the average age of the unmarried group was 37·4 years, while the average age at marriage of the married group was 25·7 years. Both auto-erotic and hetero-erotic experiences were more common among those who recognized periodicity. This preponderance did not occur in the case of homosexual forms.

M. HAMBLIN SMITH.

6. Mental Hospital Reports.

Staffordshire Mental Hospitals.—(1) Stafford: During the year 1926 there has been a steady increase in the number of cases under treatment, and on December 31 there were 996 patients (males 472, females 524) remaining on the registers—an increase of 35 on the year. There were 211 admissions, 89 discharges and removals, and 87 deaths.

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Of the admissions there were 9 cases of general paralysis, and 5 cases attributed to excess of alcohol. The recovery-rate on the total direct admissions was 28·7 in the case of males and 21·7 in the case of females.

The death-rate for the year was 7·4% of the total cases under treatment, and the principal causes of death were pulmonary tuberculosis (20·6%), cardio-vascular degeneration (24%), and general paralysis (6·8%).

For the relief of overcrowding, Dr. B. H. Shaw suggests proper staffing of Poor Law institutions for the reception of certain cases, and separate provision for idiots and imbeciles, and possibly "boarding out," but the erection of additional accommodation obviously cannot be delayed much longer.

In reviewing the report of the Royal Commission on Lunacy and Mental Disorder Dr. Shaw makes the following remarks:

Alternatively to admission to a separate reception block at a mental hospital, the Commission suggest sending patients first to receiving houses in connection with large centres of population, where they could be detained for a period not longer than one month, when they should be sent on to a mental hospital if the treatment order is extended to six months. For the vast majority of recoverable recent cases provisional treatment for one month is entirely inadequate, as the following statistics with regard to duration of stay required for recovery will show:

Table showing Duration of Attack since Admission to the Mental Hospital in respect of the last 100 cases Discharged Recovered.

Duration.	No. of cases.
Under 1 month	2
Over 1 and under 3 months	19
Over 3 and under 6 months	37
Over 6 and under 12 months	22
Over 12 months	20

It is interesting to note, however, that although the proposed period of one month would have been quite inadequate in most of the cases referred to, 58% of the recoveries could have been dealt with without the necessity for certification had there been provision for dealing with them on a voluntary basis up to a period of six months from the date of reception.

The Laboratory shows its continued activity by valuable research work carried out by Dr. B. H. Shaw himself, Dr. K. K. Drury and Dr. C. Farran-Ridge.

(2) Burntwood: During the year 1926 the number of patients increased by 22, resulting in a considerable degree of overcrowding, especially on the male side, and this the Committee proposes to relieve, at as early a date as possible, by the building of an Admission Hospital and a Convalescent Villa, while the Board of Control recommend as an immediate measure boarding out under Sec. 25 of the Lunacy Act, 1890, and a freer use of Sec. 79.

The recovery-rate for the year was 25·9, and the death-rate 7·6%.

(3) Cheddleton: The total admissions to this hospital during the year 1926 were 36 more than the previous year, a considerable increase coming from the Stoke-on-Trent area, though the numbers in residence at the end of the year showed little difference from that

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at the beginning. There are, however, a considerable number, both male and female patients, boarded out in other hospitals.

Out of the 290 admissions for the year, heredity was noted in 107, alcoholic excess in 30, encephalitis lethargica in 9 cases. Amongst the deaths, Dr. Menzies records an unusual case of actinomycosis in a man who had been resident in the hospital for 17 years, and had never either before or since admission done farm work.

A somewhat serious outbreak of dysentery occurred during the year, which greatly increased the work of the laboratory in the endeavour to discover the carriers.

Dr. W. F. Menzies' remarks on the basic structure of the farm land and the farm of the future are full of interest.

Birmingham City Mental Hospitals.—It is with regret that the Committee of these hospitals record the retirement through ill-health of Dr. Roscrow, after 24 years' service at Birmingham (Winson Green). It was the hope of his colleagues, and we are sure of all members of this Association, that removal from the responsibilities of office would give him many years of better health, to enable him to enjoy his well-earned retirement; this, however, was not to be, and to the regret of all who knew him he passed away later in the year.

An important result of the termination of this appointment is the decision of the Committee to place all the institutions controlled by them (namely Winson Green, Rubery Hill and Hollymoor) under one director, and to this end Dr. T. C. Graves has been appointed Chief Medical Officer of the City of Birmingham Mental Hospitals, at the same time retaining, at least for the present, his position as Medical Superintendent of the Rubery Hill and Hollymoor Division, while Dr. C. W. Forsyth assumes the position of Medical Superintendent of the Winson Green Division.

The total number of patients in the Hospitals on March 31, 1927, was 2,250, with 355 patients boarded out under contract, the corresponding figures for the previous year being 2,207 and 239.

(1) Winson Green Mental Hospital: The report is for the year 1926, and there remained in the hospital and its branches 756 patients (males 363, females 393) on December 31, as compared with 743 at the beginning of the year, the total authorized accommodation being for 724.

There were 228 direct admissions during the year, and of these 110 came directly from their own homes, 106 from the Guardians' institution, and 12 from the hands of the police. Forty-six of these admissions were diagnosed as suffering from primary dementia—that is, about 20%—and 14% were cases of confusional insanity. The most important principal causative factor was considered to be some form of toxicity, which was found in 22% of the admissions. Alcohol was considered to be a causative factor, either principal or contributory, in 32 cases. The recovery-rate on the direct admissions was 30·7%, and the majority of recoveries took place within a year's residence.

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The death-rate for the year was 7·2%—the lowest in the history of the hospital since 1850.

Of 4 cases of general paralysis treated by induced malaria, followed by a course of novarsenobillon, 2 showed no change, 1 physical and slight mental improvement, and 1 so far improved physically and mentally as to be discharged recovered, and was able to continue his former occupation satisfactorily.

(2) Rubery Hill and Hollymoor Mental Hospital: There were resident in the hospital on December 31, 1926, 1,459 patients—7 more than at the corresponding date in the previous year—and of these 15·6% were epileptics; there were, however, 320 patients boarded out under contract in various hospitals. There were 344 direct admissions during the year, or 86 more than the previous year, and of these 277 were "first attack" cases, and the largest number of direct admissions occurred in the age-period 25–34.

Of the forms of mental disorder in the direct admissions, confusional psychosis and primary dementia give the largest figures, being 95 and 46 respectively. There were 15 general paralytics and 26 epileptics admitted during the year.

Amongst the causative factors, alcoholic excess was regarded as potent in 24 cases, either as principal or contributory, and "other toxins—chronic sepsis" in 208 out of the 344 direct admissions.

The recovery-rate calculated on the direct admissions was 40%.

As to the existence of focal sepsis as a factor in mental disease, Dr. Graves makes the following note:

> The search for focal sepsis present in the bodies of the patients has been, as in the past, a regular routine procedure during the last year, aided by the visiting and consultant surgical specialists, and there is no question as to the good results which this mode of treatment has produced in those cases where the conditions are not fixed and irremediable.

A very large proportion of the nursing staff hold the Certificate in Nursing of the Royal Medico-Psychological Association (60 male and 47 female nurses), and in addition many also are on the register of the General Nursing Council.

The Retreat, York.—At the end of the year 1926 there were 214 patients resident in the hospital, or 8 more than at the beginning of the year; the admissions for the year were fewer than in the previous year, and the recovery-rate calculated on the admissions was 40%.

Dr. Henry Yellowlees was unfortunate enough to have a death by suicide during the year amongst his voluntary boarders. There is always great difficulty in deciding in any given mental case the degree of liberty. It is frequently not recognized that the insistent demand for greater liberty to be given in as large a number as possible to all mental patients entails an enormous responsibility to the Medical Superintendent. Unfortunately when an accident does occur, relatives think that they have a just grievance in that the patient was sent to a hospital for safety.

The new Nurses' Home was opened during the year, and

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Dr. Yellowlees rightly points out that the effective result is something more than merely housing the staff:

Six months of practical working have shown the Home to be admirably suitable for its purpose, and to have even surpassed our hopes as to its value to the Retreat.

The effect on the nurses, however, has been the most striking and satisfactory result of all. They take a real pride in the Home, which forms an invaluable nucleus and centre for their social life and *esprit de corps*. The result is a most gratifying increase of social sense, and improvement in general public feeling among them, with much increased happiness as its necessary corollary.

The founding of a sports club, a study club, a thrift club and a choir are among the pleasing evidences of a healthy corporate existence.

The report is illustrated with many views of different parts of the hospital, which are exceedingly pleasing, and as evidence of the useful work carried on it may be pointed out that 38% of the patients are maintained at less than the actual cost of maintenance, which is £5 2*s*. 7*d*.

Barnwood House, Gloucester.—On December 31, 1926, there were 137 patients in residence—the same number as at the beginning of the year. The admissions during the year were 33, discharges 25, and deaths 8. There were admitted during the year 35 voluntary boarders, and 21 remained in residence at the end of the year:

It will be noticed that for the first time the number of patients who were received on a voluntary basis exceeded those who were admitted under certificates; and there is every reason to anticipate that voluntary admissions will tend to increase, the certified admissions to diminish. The decrease in the number of the involuntary cases admitted may be due partly to the reluctance both of the public and the medical profession to resort to certification, but I hope it may be due in some measure to the increasing willingness of patients to submit themselves for treatment during the early stages of illness.

Dr. A. A. D. Townsend expresses with no uncertain voice his views concerning the training and examination of the mental nurse:

Eleven nurses entered for the preliminary examination of the General Nursing Council, but only four were successful—a disappointing, but not unexpected result, owing to the severity of the practical part of the examination, where the standard demanded was, I consider, too high for mental hospital nurses. In these examinations mental nurses are evidently expected to have as much knowledge as general hospital trained nurses; and this is not possible. I think, therefore, that we shall in future have to advise our nurses to take the examination of the Royal Medico-Psychological Association, where the practical part is within the limits of their training and experience.

The average cost of maintenance is £5 2*s*. 1*d*., and the percentage of patients received gratuitously is 3·3, those paying 21*s*. a week 2, from 21*s*. to 42*s*. 6·5, those paying above this figure and up to and including the cost of maintenance 36, and the percentage of those who pay over the cost of maintenance 52.

The Lawn, Lincoln.—At the end of the year 1926 there were 66 patients in residence at this hospital, including voluntary boarders. During the year there were admitted 15 patients (and 21 boarders) discharged 15, and 3 died. As in the case of other registered hospitals, Dr. Jane Shortt has to point out the definite increase of voluntary admissions, as compared with previous years:

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From the above tables it will be seen that of the 36 patients admitted during the year, 21, or 58% entered the hospital of their own accord. This is a marked increase in the numbers of voluntary boarders admitted in any previous year, and shows that the knowledge of the benefits which can be derived from the voluntary boarder system is becoming more widely recognized and taken advantage of. There is no doubt that doctors are more reluctant to certify patients since the recent cases brought before the Law Courts. In many instances this has resulted in patients being kept at home, to their great detriment, until their disorders were well established. The more the voluntary boarder system is taken advantage of, both for early treatment of incipient cases and for giving a greater sense of freedom, when possible, to patients under treatment, the better the chance of recovery. It is to be hoped that great advances in this direction and in that of allowing still more freedom to the insane will be made in the future.

In the report of one of the Visiting Commissioners of the Board of Control the following sentence occurs: "It is gratifying to note that neither mechanical restraint nor seclusion is *ever* resorted to at this Hospital." There must be many, with a very wide experience in mental disease, who would feel a little uneasy in endorsing this as a supreme virtue in a mental hospital; to reduce these forms of dealing with cases to a minimum is good; to know when and how to use them wisely and well to the advantage of the patient is better.

The Governors' report consists of a short but interesting review of the past of this hospital since its foundation and opening in 1819; it is difficult to read the history of the foundation and opening of the older hospitals without a feeling of wonder at the extraordinary prevision of these really great men, who, carrying into practice the highest Christian principles and ideals, founded a hospital and a "*monumentum aere perennius.*"

St. Andrew's Hospital, Northampton.—There were on the books of the hospital on December 31, 1926, 471 patients, including 38 voluntary boarders. There were admitted during the year 66 certified patients, and 42 voluntary boarders. The recovery-rate (calculated on the direct admissions) was 50%, and the death-rate 3·6%. The percentage of patients who receive treatment gratuitously is 0·23 and those paying over the cost of maintenance 27. The average cost of maintenance for the year was £4 17*s.* 5½*d.*

We notice amongst the "entertainments" provided during the year, "Ap. 1, Conference of the Royal Medico-Psychological Association."

Part IV.—Notes and News.

THE ROYAL MEDICO-PSYCHOLOGICAL ASSOCIATION.

Quarterly Meeting.

The usual quarterly general meeting of the Association was held on Thursday, November 17, at the House of the British Medical Association, 19B, Tavistock Square, W.C. 1, under the presidency of Dr. Hamilton Marr, F.R.F.P.S.Glasg.

The Parliamentary, Educational, Research and Clinical and Journal Committees assembled on the previous day.

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The Council Meeting.

As the President could only make a brief mention at the General Meeting of the business transacted by the Council in order to have as much time as possible to the discussion on the future policy of the Association in regard to mental nursing, a fuller account of the Council's proceedings is given here.

Report of the Educational Committee.

The Council approved the final drafts of the following documents with effect from the date of the meeting, November 17, 1927, and ordered their printing and distribution :

(1) *Regulation for the Training and Examination of Candidates for the Certificate of Proficiency in Mental Nursing and in the Nursing of Mental Defectives.*

(2) *Rules for the Conduct of the Examinations for the Certificate of Proficiency in Mental Nursing.*

(3) *Syllabus for the Examinations for the Certificate of Proficiency in Mental Nursing.*

(4) *Rules for the Conduct of the Examinations for the Certificate of Proficiency in the Nursing of Mental Defectives.*

(5) *Syllabus for the Examinations for the Certificate of Proficiency in the Nursing of Mental Defectives.*

Report of the Research and Clinical Committee.

The Committee met for the first time since its resuscitation at the Annual Meeting in July, 1927, with its enlarged reference. Lt.-Col. J. R. Lord was elected Chairman, Prof. G. M. Robertson, Vice-Chairman (with a seat on the Council), and Dr. B. H. Shaw, Secretary. The Committee concurred in the Report of the Provisional Research and Clinical Committee (*vide Journ. Ment. Sci.*, October, 1927, p. 708), and appointed the following sub-committees :

(i) On a Glossary of Psychological and Psychiatrical Terms.
Reference : To compile a glossary of psychological and psychiatrical terms, with a recommendation as to the sense and circumstances in which it is desirable that each should be used. The definition of terms having ambiguous meanings. The creation, as may seem necessary, of new terms.

(ii) On the Treatment of General Paralysis and other Syphilitic Diseases of the Brain.
Reference : To study the treatment and after-care of general paralysis and other syphilitic diseases of the brain.

(iii) On Epidemic Encephalitis.
Reference : To study the epidemiology, ætiology, pathology and treatment of epidemic encephalitis, and the care of cases of chronic encephalitis, especially poor cases which cannot be cared for at home.

(iv) On Psychotherapy and Psychopathology.
Reference : To study the psychogenesis and psycho-pathology of mental disorders and the application of psychic methods of prevention and treatment.

(v) On Actinotherapy in Mental Cases.
Reference : To study the treatment of morbid physical conditions associated with mental disorders by ultra-violet radiation.

(vi) On the Occurrence, Treatment and Avoidance of Infectious Diseases in Mental Hospitals.
Reference : To investigate the occurrence, treatment and avoidance of infectious diseases in mental hospitals and to make recommendations thereon. Under "occurrence" to inquire especially into the incidence of cancer, as to whether or not its occurrence is rare in mental hospital patients as compared with the outside population, and, if so, why. Under "treatment" to inquire especially as to the care and treatment of "carrier cases." Under "avoidance" to enquire especially as to protective vaccination and the use of vacuum cleaners, and to ascertain an economical disinfectant that shall be odourless, non-poisonous (except in large quantities) and non-destructive to clothing, bedding and instruments.

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(vii) On Pathology, Bacteriology and Biochemistry in regard to the Causes and Manifestations of Mental Disorder.

Reference: To study the physiogenesis and pathology, bacteriology and biochemistry of mental disorders, especially with a view to the separating out of (a) *mental disorders primarily due to diseases of the brain,* (b) *mental disorders secondary to diseases other than in the brain; and further, to ascertain the nature of the physical complication occurring in primary mental disorders.*

(viii) On Clinical Psychiatry (including Occupational Therapy).

Reference: To study the symptomatology, diagnosis and classification of mental disorders, their treatment (without giving special attention to those being dealt with exclusively by other special sub-committees). To give special attention to methods of examination, clinical recording and team work. To make recommendations with a view to the issue of standard clinical forms authorized by the Association, the general use of which would facilitate research and classification.

(ix) On the Care and Treatment of Mental Defectives.

Reference: To study the special problems—medical, administrative, legal, sociological and legislative—associated with the care and treatment of mental defectives (as defined by law), and to suggest lines of research in regard to the causation of mental deficiency.

(x) On Study Tours and Post-Graduate Educational Information, etc.

Reference: To arrange and advise as to study tours for individual members or groups of members for education and collecting information, supplying letters of introduction, etc. To be an information bureau in regard to post-graduate education, scholarships, diplomas in psychiatry, etc.

The honorary secretaries appointed to these sub-committees were: (i) H. J. Norman, (ii) W. D. Nicol, (iii) P. K. McCowan, (iv) J. E. Nicole, (v) L. C. F. Chevens, (vi) R. W. Branthwaite, (vii) W. M. Ford-Robertson, (viii) G. W. T. H. Fleming, (ix) F. Douglas Turner, (x) A. E. Evans.

The Committee decided to arrange a conference between the editors of medical journals publishing psychiatric epitomes, and Lt.-Col. J. R. Lord and Dr. F. L. Golla as representing the Committee, with a view to some combined action to produce a comprehensive index and epitome of current psychiatric literature for general use.

The General Meeting.

The Minutes.

The minutes of the previous meeting, having already appeared in the Journal, were taken as read and approved, and signed by the President.

Obituary.

The President said it was his sad duty to announce that three of its members had died, two of them since the previous meeting of the Association. All were members who had passed the allotted span of life, and all of them did excellent work for the Association. All present would wish to be associated with letters of regret to their nearest relatives. The deceased members were: Senator Leonardo Bianchi, Sir Horatio Bryan Donkin and Dr. J. Carlyle Johnstone.

Members stood in silent sympathy.

The Report of the Council.

The President said the Council had discussed some interesting matters, but as there was no definite motion arising therefrom to bring before this general meeting his remarks would be brief.

The printing of a further volume of the General Index of the *Journal of Mental Science*, for which £150 had been granted at the Annual Meeting, would cost about £80 for 1,000 copies. It was agreed that the volume should be supplied to members of the Association free, and to non-members at a charge of 2*s.* 6*d.* Dr. F. H. Edwards had suggested that a photograph of the President for the year should be published in the *Journal of Mental Science*. That was agreed to, though, of course, it could not be insisted upon:

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He thought that the meeting would be pleased to hear that the Research and Clinical Committee had restarted its career under the Chairmanship of Lt.-Col. J. R. Lord, with every augury of success (applause). Dr. Stewart Adair had resigned, after 26 years' membership of the Association. The resignation was accepted by the Council with great reluctance and regret. [He was Secretary N. and M. Division, 1908–20.]

Election of New Members.

The following were elected ordinary members of the Association, by ballot, the scrutineers being Dr. Douglas McRae and Dr. C. W. Bowers.

Atkin, Isaac, M.B., B.S., M.R.C.S., L.R.C.P.Lond., D.P.M., Junior Resident Medical Officer, Knowle Mental Hospital, Fareham, Hants.
Proposed by Drs. J. L. Jackson, A. Wilson and R. Worth.

Healey, Frederick Henry, B.Sc., M.B., Ch.B.Birm., D.P.M., 3rd Assistant Medical Officer, County Mental Hospital, Chester.
Proposed by Drs. G. Hamilton Grills, J. T. H. Madill and J. A. Gillespie.

Perera, Clement Osmund, M.R.C.S., L.R.C.P.Lond., D.P.M., Assistant Medical Superintendent, Mental Hospital, Angoda.
Proposed by Drs. M. Hamblin Smith, R. Worth and G. W. Shore.

Goitein, Percy L., M.B., B.S., M.R.C.S., L.R.C.P.Lond., D.P.M., Deputy Medical Superintendent, Northumberland House, Green Lanes, N. 4: 23, Blomfield Road, Maida Hill, W. 9.
Proposed by Lt.-Col. Edwin Goodall, and Drs. F. R. King and F. Dillon.

Mackenzie, Murdo, M.R.C.S., L.R.C.P.Lond., Senior Assistant Physician, Bethlem Royal Hospital, S.E. 1.
Proposed by Drs. J. G. Porter Phillips, C. Lovell and R. D. Gillespie.

Shera, Arthur Geoffrey, M.A., M.D., M.R.C.S., L.R.C.P.Lond., Pathologist to Princess Alice Hospital, Eastbourne: 10, Upperton Gardens, Eastbourne.
Proposed by Drs. F. R. P. Taylor, J. N. G. Nolan and W. A. Duncan.

Brownlees, Oswald, L.R.C.P.& S.Edin., Assistant Medical Officer, County Mental Hospital, Isle of Wight.
Proposed by Drs. W. J. A. Erskine, J. L. Jackson and R. Worth.

Moulson, Norman, M.B., B.S., M.R.C.S., L.R.C.P.Lond., D.P.M., Assistant Medical Officer, County Mental Hospital, Winwick.
Proposed by Drs. F. M. Rodgers, J. Gifford and J. Ernest Nicole.

Jacob, Frank Harwood, M.D.Lond., F.R.C.P., Hon. Physician, General Hospital, Nottingham: 32, Regent Street, Nottingham.
Proposed by Drs. David Hunter, George L. Brunton and J. B. Tighe.

Rees, Thomas Percy, B.Sc., M.B., B.Ch.Wales, M.R.C.P.Lond., M.R.C.S. Eng., D.P.M., Senior Assistant Medical Officer, Croydon Mental Hospital, Upper Warlingham, Surrey.
Proposed by Drs. H. M. Berncastle, A. O'Neill and H. J. B. Roberts.

Berry, R. J. A., M.D.Edin. and Melb., F.R.C.S.E., F.R.S.E., Professor of Anatomy at the University of Melbourne, and Honorary Psychiatrist, Children's Hospital, Melbourne, Victoria.
Proposed by Drs. C. H. Bond, G. A. Watson and R. Worth.

Levinson, Reuben, M.B., Ch.B.Edin., D.P.H., Assistant Medical Officer, West Ham Mental Hospital, Goodmayes, Essex.
Proposed by Drs. R. M. Macfarlane, G. Somerville and Noel Sergeant.

The General Nursing Councils and Registration of Qualified Mental Nurses.

Prof. George M. Robertson moved the following resolution:

"*Arising out of the Report of the Royal Commission on Lunacy and Mental Disorders* (*p.* 107, *para.* 102) *and in accordance with the recommendation of the Report of the Select Committee on the Registration of Nurses*, 1905, *para.* 22, *it is resolved that the Royal Medico-Psychological Association makes every endeavour by negotiation, or failing that, by obtaining the insertion of a provision in any new Lunacy Bill, to secure that the possession of the Certificate of Proficiency in Mental Nursing of the Association entitles the holders thereof (both present and future) to be registered, on payment of the fees, in the Mental*

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" Section of the Registers of Nurses of the General Nursing Councils, and to " enjoy all the privileges of registered mental nurses : this to be without prejudice " to any examination in mental nursing which the General Nursing Councils " may think fit to hold, and to be subject in the future to such supervision and " standard as the General Nursing Councils may think fit to impose, as in the " analogous case of the General Medical Council and medical professional " examinations."

He said : No one has any desire to interfere with the privileges or to lessen the prerogatives of the General Nursing Councils of England, Scotland or Ireland. They have the right to organize examinations and to give certificates to mental nurses as they do to hospital nurses. But, while we have no desire to interfere with their prerogatives, and are actually prepared to increase their powers in certain directions, we do not think that a wise policy has been followed by them in preventing fully trained nurses, who have obtained the certificate of proficiency in mental nursing granted by the Royal Medico-Psychological Association, from being admitted to the State Registers.

It is my considered opinion that the most beneficent work ever done by the Association since it was founded has been the organization of our training and instruction and our Imperial system of examinations for our nursing certificate. There is not time to expand upon this subject, which has been followed by a remarkable revolution in the care of the insane. Forty years ago, at Morningside, under the superintendence of Dr. Clouston, deservedly regarded as one of the most advanced psychiatrists in this country, there was only one nurse in the whole institution who could take a temperature, and when it was taken she could not read the thermometer. Since then, what a revolution has been effected ! and solely by the Association.

Mental nurses were not regarded at that time as members of the nursing profession. Thirty years ago it took me a whole year to find any hospital nurse who would demean herself to take a post in the wards of an asylum, although tempted to do so by a better salary than she would obtain in a hospital. Although mental nursing demands finer mental and moral qualities than are required in hospital nursing, hospital nurses are not yet disposed to regard mental nurses as being on an equality with themselves. Mental nursing is the Cinderella of the nursing profession, and it has a fairy godmother, the Royal Medico-Psychological Association. Under its fostering care, mental nursing has developed as if by magical powers, and when the Nurses' Registration Act was passed in 1919, the matrons of hospitals and hospital nurses received the shock of their lives. They discovered that mental nurses, whom they looked down upon, had for thirty years, under the ægis of the Association, enjoyed the advantages that hospital nurses were to have conferred upon them for the first time, namely, a standardized system of training and registration.

The Registration Act of 1919 was framed as a result of the labours of the Select Committee on the Registration of Nurses of 1905. Following upon their recommendations, General Nursing Councils were established in the three countries, and State Registers of Nurses were created. Till then every hospital was a law unto itself as regards the training and examination of nurses, and one of the first duties that each General Nursing Council had to do was to organize a uniform system for the whole country. Otherwise there would have been a hundred different examinations, with differing standards.

When the General Nursing Councils came to apply the system to mental nursing, they followed the same plan as they had organized for hospital nurses. They had not grasped the fact that a uniform system already existed in the mental nursing service. They created multiplicity and disuniformity.

The Government of the day also failed to appreciate the importance of the Association in this matter. In England there was one representative, in Scotland not a single representative of the Association on the General Nursing Councils. As a result of this failure of representation it is natural to assume that many decisions were taken and many things were done which would not otherwise have been done in regard to mental nursing. The General Nursing Councils adopted the syllabus of training of the Royal Medico-Psychological Association more or less in its entirety ; it introduced examinations resembling those of the Royal Medico-Psychological Association. It undoubtedly made some departures, and a few of these were improvements upon our own system. The Association,

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however, had the wisdom to adjust, from time to time, its training and its examinations, so that they should correspond as closely as possible with those of the General Nursing Council.

Another step was taken through the good offices of the Ministry of Health and of the Board of Control. The claims of the Association for special consideration were brought to the notice of the General Nursing Council for England and Wales. A meeting was held in the Ministry of Health between representatives of these bodies, and, as a result of this, an Advisory Council of six members of the Royal Medico-Psychological Association was set up to co-operate with the Mental Nursing Committee of the General Nursing Council. The privilege was also given to this Advisory Committee to nominate examiners for the General Nursing Councils' examinations. A similar system was adopted in Scotland, and, I believe, also in Ireland.

As a result of all these arrangements, the course of training, the standard of examination, and even the examiners of the two bodies are as nearly identical as they can possibly be. There is practically nothing to choose between them.

In spite of the practical identity of these two courses of training and of these two sets of examinations, the General Nursing Councils have decided that nurses holding the certificate of proficiency in mental nursing of the Association are not entitled to be admitted to the State Register, whereas nurses holding the corresponding certificate of the General Nursing Councils enjoy the privilege. This is an injustice. Our nurses are just as well trained and as competent as those nurses who hold the certificate from the General Nursing Councils, and on the ground of equity they ought to enjoy the same privileges.

This exclusion from the Register is also in direct opposition to one of the specific recommendations of the Select Committee on the Registration of Nurses, which is as follows :

> "22. *The claims for Registration of Mental or Asylum Nurses have been laid before your Committee. They are of opinion that a separate Register of 'Registered Asylum Nurses' should be kept by the Central Body, to which should be admitted the names of nurses who have served for not less than three years (in not more than two asylums), and have received the certificate of the Medico-Psychological Association, and can produce satisfactory certificates of good character.*"

The General Nursing Councils have proceeded, in the teeth of this recommendation, though, as a matter of fact, it is to be surmised that its existence was unknown to most of their members. It is not specifically included in the Nurses' Registration Act of 1919, and it is understood that, when this was pointed out during the passage of the Bill, we were told that it was not necessary to insert it, as the General Nursing Councils would recognize the exceptional position occupied by the Royal Medico-Psychological Association, and would accept its certificate, as intended by the Committee. Unfortunately, this has not been done.

This state of affairs is most unsatisfactory. It is referred to in the Report of the Royal Commission of Lunacy and Mental Disorders, and the Commission expressed the hope that this anomalous position would come to an end. It is, however, much more serious than was ever imagined by the Royal Commission. Owing to these decisions by the General Nursing Councils, the registration of mental nurses on the State Register has become practically a dead letter. This is an injustice to the nurses, it is to the detriment and disadvantage of the public, and it has rendered this portion of the Registration Act an ignominious farce.

Statistics of mental nurses admitted to the State Register in the three countries during the last three years have been obtained, and it is found that the total number thus registered amounts to 126; there were 100 registered in England, 26 in Scotland, none in Ireland. During the last three years—and this does not include our last examination nor nurses from the Dominions—there have been 3,509 nurses who have obtained our certificate and been placed on our Register, *i.e.*, in England 2,723, in Scotland 551, in Ireland 235.

From these statistics it appears that 96·5% of all fully trained British mental nurses are excluded from the Registers of the State. Special permission is given for the inclusion of a mere 3·5% who are not any better trained. An Act of Parliament for the Registration of Mental Nurses has been passed, and owing to this unfortunate decision of the General Nursing Councils, for all practical purposes this Act remains a dead letter.

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It can be asserted with the utmost confidence that the nurses who obtain the certificate of our Association in mental nursing are, on the average, the best nurses of their class in the world. It is an intolerable and a most humiliating act of injustice that these nurses should not be admitted to the State Registers of the country.

Into the causes why the certificate of the Royal Medico-Psychological Association is so popular, and why so few enter for the certificate of the General Nursing Councils, I will not enter in any detail. It is enough to say that the Royal Medico-Psychological Association already supplied all the instruction and other requirements that were necessary for mental nurses before the General Nursing Councils' examinations were started and these were superfluous from the beginning. They also make financial demands on our nurses which they naturally and quite properly object to, for these are greatly in excess of the sums charged by the Royal Medico-Psychological Association. The members of this Association train and examine nurses mostly as a labour of love and from a sense of duty, and we do not demand payment for our efforts. To the costs charged for the General Nursing Council examinations have to be added the expenses connected with travelling to and from their examination centres, which are few as compared to ours. In some districts this may amount to a larger sum than that paid in fees. Whatever may be the explanation, it is obvious these examinations have not "caught on."

Certain privileges are connected with State registration, which, however, are largely illusory, because few first-class hospitals will engage a nurse for two years because she holds the mental certificate. As for male nurses who do not complete their education in general hospitals, there are no advantages at all—and these constitute a considerable proportion of mental nurses.

In conclusion, the Association, I feel certain, has no intention, after thirty-five years, of giving up its own examinations and its own certificate. It is the greatest piece of work done for the care of the insane during the last fifty years. It stands comparison with the work of Pinel and Tuke, of Gardiner Hill and Conolly. The Association may as well break up altogether if its members cease to be interested in the education of the nurses in our mental hospitals and to grant certificates to them.

I have three proposals to make:

Firstly, we should, in every possible way, endeavour to exert pressure to have our nursing certificate accepted, as admitting to the State Register.

In the next place, we should allow our examinations to be inspected by representatives from the General Nursing Councils, and also agree to have the curriculum and standard of examination set by the General Nursing Councils after consultation with us. Our standard is already too high and our examinations are too severe, according to the Royal Commission on Lunacy, and we will suffer no loss by conceding these privileges to the General Nursing Councils. We, as medical men, have to submit to the same supervision by the General Medical Council.

Thirdly, it should be in the power of the General Nursing Councils to strike any nurse of ours off the Register if she were found guilty of infamous conduct in a professional sense.

I consider these questions to be of the utmost importance for the future prosperity of the Association, for the contentment of our mental nurses, and for the welfare of the sick in mind. I trust that the Association will speak on them with no uncertain voice, and, having put its hands to the plough, will not turn back nor shame a former generation that, by its enterprise, organized a magnificent system, the equal of which does not exist in the hospital service, nor in any other country in the world. (Loud applause.)

Lieut.-Col. J. R. Lord seconded the resolution. He said: I am very sensible of the grave responsibility I incur in seconding this resolution, and I should like to explain, at the outset, that I could not have brought myself to vote for the resolution had it ended at "*privileges of mental nurses.*" Such a proposition, by itself, would, I think, be futile. Neither am I very sanguine that the Legislature will be persuaded to mention the Royal Medico-Psychological Association by name; still, that need not prevent us, if it become necessary, from bidding for a legal status in this very important matter. It is the proviso following these words qualifying the main body of the resolution which puts the whole resolution in its proper perspective, making it one I can heartily commend for your

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acceptance. This proviso reads: "*This to be without prejudice to any examination in mental nursing which the General Nursing Councils may think fit to hold, and to be subject in the future to such supervision and standard as the General Nursing Councils may think fit to impose, as in the analogous case of the General Medical Council and medical professional examinations.*"

It is along these lines only, that, in my opinion, a solution of this difficult question is likely to be found.

I do not think I have ever heard this subject debated without somebody asserting that the Association has no policy in regard to it except one of drift. In case anybody present should again be tempted to make this assertion, let me state that the Association has a very definite policy in this matter, which is (1) to co-operate with the General Nursing Councils in the nomination of examiners for their mental nursing certificates and the building up of the syllabus of subjects to be examined in, etc., (2) to continue the Association's certificate of proficiency in mental nursing, (3) to encourage all mental nurses to secure registration in the Mental Nurses' Section of the General Nursing Councils' Registers of Nurses. It is particularly in regard to (3) that we think further and stronger action should be taken.

It is becoming more and more urgent that all mental nurses should be on the State Registers, and we are still of the opinion that the educational machinery of the Association offers the best and most ecomonical portal of entry.

I will deal with the first matter at once. The disabilities of the mental nurse not being registered chiefly affect at the moment the private mental nurse, and the call for the services of this kind of nurse is more likely in the future to increase rather than to diminish if the recommendations of the Royal Commission are embodied in an Act of Parliament. The unregistered mental nurse is already excluded from several of the largest nurses' co-operations and agencies, and this attitude, I am sure, is likely to be adopted by all of them. I was, as President, in correspondence with these bodies, and I did my best for the unregistered qualified mental nurse, but, as reported to the Association, they would not give way on the matter. They said nurses should be considered in the same light as the doctors, and that you would not get doctors' agencies to recognize a medical man who is not on the Medical Register; and so, they said, nursing agencies cannot recognize those nurses who are not on the Nurses' Register. This, of course, will practically cut out entirely the unregistered mental nurse from private work.

An additional diability is foreshadowed in the Bill for the Registration of Nursing Homes, under which provisions the unregistered mental nurse will be excluded from employment in such registered homes. If Clause 9, as it at present stands, of that Bill becomes law, the unregistered nurse will be excluded from an important section of the private mental institutions in England and Wales.

Now as regards nurses employed in public mental hospitals, I believe most, if not all, of the local authorities accept either the Association's or the General Nursing Councils' certificates of proficiency in mental nursing as qualifying for the post of staff-nurse; yet there is no security that this attitude will continue. It seems to me to be inevitable, sooner or later, that the local authorities will insist upon their nurses being registered on the General Nursing Councils' Register. We therefore owe it to the mental nurses that our proficiency certificate should carry with it registration on the State Register. (Applause.) I put it to you that the logic of these facts drives us to the conclusion that the Association must either take steps to secure that its nursing certificate becomes registrable, or, providing it can be done without detriment to the whole mental nursing structure, cease to tempt mental nurses with an unregistrable qualification, and leave the local authorities and the General Nursing Councils to fight the matter out.

I have no doubt that during the course of this debate we shall hear something about the "one-portal" system of entry to registration; we shall be told, I expect, that it is a very great principle, and one which the Association—having been first to adopt it—should support in its larger application. I confess I am not much attracted by the one-portal system, but its value, if any, depends entirely upon its nature and how it is applied. It always appears to me that any one-portal system, based on efficiency, if rigidly carried out, must have more regard to the lowest than to the highest standard of efficiency, and impose a dead level of standard of efficiency, and put out of play the competitive principle. A one

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portal to be of real service should have regard to character, culture and moral values, rather than to professional education, and thus free the latter for competitive evolution and the survival of the most efficient. Such a portal would be the ideal one for entry to the medical and nursing professions.

However, let us grant, for argument's sake, that the one-portal system of entry to the nursing profession as at present understood is a great principle—one to be advocated. Surely, in these Isles there is not one portal only, but four. Are there not four Nursing Councils, each with its own portal? Might they not possibly have different standards? It is this Association alone that affords a complete one-portal system for mental nurses in Great Britain, Ireland, the Colonies and the great Dominions beyond the seas. Besides, the one portal of each of those General Nursing Councils only applies to the Preliminary examination. There is a separate Final examination for every section of the Register. Long ago I suggested this Preliminary examination as a basis of compromise between the General Nursing Councils and the Association. I have always been willing for the General Nursing Councils to conduct, or be responsible for, the preliminary examination of mental nurses, which means that the Association would recognize these preliminary examinations in lieu of its own, and that the General Nursing Councils would accept, in return, the Association's Final examination for registration.

It may be argued against this that the General Nursing Councils cannot legally accept the certificate of another body for registration purposes. Perhaps not according to existing rules. On looking through these Acts of Parliament, I cannot find that there was any difficulty originally. Section 3 (*c*) of the Nurses' Registration Acts, 1919, is the only reference. It does not, it seems to me, compel them to become educational and examining bodies for any or all classes of nurses. Granted that such a difficulty arises, if the Association passes this resolution, we should, in the first place, encourage the General Nursing Councils to have it removed by seeking the necessary alterations from the Legislature, before we invoke the aid of the latter, as indicated in our resolution.

I have also given much thought to the suggestion that the Association should cease to issue a qualifying mental nursing certificate, leaving that to the General Nursing Councils, and institute in its place an Honours certificate. The idea no longer attracts me, having regard to the fate of our M.P.C. There is no doubt that the Universities will, in time, supply this need; in fact the London University and, I think, the Birmingham University also, have already established diplomas in nursing, with mental nursing sections. So our Honours certificate in mental nursing, if established, would be but short-lived.

Then there is the suggestion that our Association should go out of business entirely in this respect, and leave it to the General Nursing Councils. This suggestion is, in my opinion, unbusinesslike, and, if our nursing certificate can become registrable, there is little to be gained, and all to be lost by surrender. If common sense prevails on both sides, such a surrender is unnecessary. I am certain that the solution advanced in this resolution should be attempted first.

I second this resolution in no spirit hostile to the General Nursing Councils. I recognize that the Legislature has called them into existence, and that they have been entrusted by the State with important duties. It is not for me to incite a Royal Association to embarrass State-instituted bodies in the carrying out of what the latter deem to be their legal obligations, but it is to be remembered that we, as an Association, also have our obligations—obligations which, in a sense, transcend all legal enactments—namely, those we owe to humanity, not the least of which is to secure the skilful and kindly nursing of its most despised section, the mentally afflicted.

We feel that, as a body, we can ensure this better than the State can acting alone. We inaugurated, and have evolved, an efficient service in this respect—not perfect, but always advancing and improving. We offer co-operation, not hostility, and we think that the State should accept that co-operation. Under the exceptional circumstances prevailing as regards the nursing of the great mass of the mentally afflicted, this is called for in the interests of mental patients, of the mental nurses, and of the mental institutions.

In the past we have done, and we continue to do, this work conveniently and economically. Most of it is voluntary labour, and any monetary gains made by the Association go to a worthy cause, namely, the progress of psychiatry.

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The State can only do this at great cost to the candidates and considerable inconvenience to many of the mental institutions. In no way do our proposals detract from the idea of the one-portal system, whichever way it is regarded. The Association's certificate maintains a one-portal system for the mental nurse, in an Imperial sense, and if the certificate becomes registrable, the mental nurse passes through the single portal for all nurses of either England, Scotland or Ireland. Neither is there any need for the General Nursing Councils to discontinue their mental nursing examinations, for there may be areas and circumstances where this work can be done by them more conveniently than by the Association. That, of course, is a matter for the General Nursing Councils to decide.

We do not wish the mental nurse to stand apart from her sisters in other branches of nursing, but to continue to be worthy of equality with them. We have no desire that the examinations in her case should be less stringent, but we wish them to be appropriate and adequate for the purpose, and put her and the mental hospitals to the least cost and inconvenience. The resolution, we believe, will, if acted on, secure this; it is a gesture towards the general body of nurses and the General Nursing Councils, not away from them. Let us be quite clear on this point. Anybody who reads the proviso carefully will see we are offering a good deal to the General Nursing Councils. We suggest that we should co-operate with them and they co-operate with us, and that our examinations should be subject to such provisions and modifications as may be from time to time agreed upon between these two bodies. In practice it will mean in due course that the mental nurse, aspiring to be a registered nurse *vid* the Association, will need to pass the Preliminary examination, or one of the same standard or nature, of the General Nursing Council, and a Final examination of a standard and nature largely, but not absolutely, determined by the only body really capable of doing this, namely, our Association.

In conclusion, let me state that I consider it is our rightful heritage that we should continue to have chief say in the training and examination of mental nurses, but, should we be dispossessed of this, or come to surrender it, our history and traditions demand that we should not, as it were, "sulk in our tents," but continue our efforts to raise the standard of mental nursing and the status of mental nurses, and, as individuals, give those loyal services to the bodies which succeed us, just as ungrudgingly as, in the past, we have given them to our Association; and, as an Association, keep a watchful eye on what is being done in these matters, and give such assistance and make such representations as circumstances seem to demand. In no direction and under no circumstances can our Association neglect its obligations in regard to the care and treatment of the mentally afflicted and at the same time remain true to those great principles and ideals for which the Association has stood for these past eighty-six years. I have much pleasure in seconding the resolution. (Loud applause.)

The PRESIDENT, before asking the meeting to debate the resolution, requested that any amendments which might be forthcoming should be handed to the chair in writing.

Dr. NOEL SERGEANT asked the President if Prof. Robertson would be good enough to repeat his three definite proposals.

Prof. ROBERTSON obliged.

Dr. H. WOLSELEY-LEWIS said he had tabled what he considered was an amendment to Prof. Robertson's resolution, and which had been circulated. ["*It is undesirable that the Royal Medico-Psychological Association should make any gesture tending to dissociate the mental nurse from the general body of the nursing profession.*"]

The PRESIDENT said that in his opinion Dr. Wolseley-Lewis's amendment was a distinct resolution, not an amendment of the resolution before the meeting. The latter must be dealt with first.

Dr. R. EAGER said he had intended to second the words just referred to by Dr. Wolseley-Lewis. After what the President had decided, it would be of no use for anyone else to get up and speak on this aspect of the question if the meeting expressed itself in favour of the resolution proposed by Prof. Robertson.

Dr. D. K. HENDERSON asked whether the following words would be accepted by the President as an amendment: "*There should be no change in the examinations now conducted by the General Nursing Council, and that only nurses passing the General Nursing examination be allowed on the Register.*"

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Dr. R. EAGER said he also had sent in an amendment to the General Secretary, ["*That further extended trial be given to the working of both the Royal Medico-Psychological Association's and the General Nursing Councils' examinations, and that every encouragement be given to nurses in mental hospitals taking the State examination, so as to gain admission to the State Register.*"]* But when he saw what Dr. Wolseley-Lewis intended to propose he withdrew it and decided to second the latter.

The PRESIDENT declared Dr. Henderson's proposals to be an amendment, and that they had already been submitted in writing, and he asked him to proceed.

Dr. HENDERSON said this discussion was of extreme importance, as the Association must decide on a definite policy now, so as to avoid difficulty and trouble in the future.

Before speaking directly to his amendment, he wished to offer a comment regarding the preliminary letter, dated October 28, which had been sent out on this question by the General Secretary. This letter was received only by some of the members, and others—who might have wished to take part in the discussion—had remained in ignorance that this matter would be discussed until they received the agenda. Also, considering the importance of the topic, it did not seem fair to limit the discussion to a period of ten minutes, especially as the speeches of the opener and seconder were of considerable length. Ten minutes did not allow for anything like a full presentation of the various *pros* and *cons*.

He felt that the examinations held by the General Nursing Councils should be accepted by this Association. The work done in the past by the Medico-Psychological Association in regard to the training and examination of mental nurses had been excellent; it was work which, as Prof. Robertson truly said, was on a par with that of Pinel and other pioneers in psychiatry. Though he valued highly the examination conducted by the Association, yet the system of examinations conducted by the General Nursing Councils was, it seemed to him, a better system, and would lead not only to uniformity, but also to a higher status of mental nurse. On that account members should be willing to put to one side their sentimental attachment to the work carried on for so many years by the Association, if they felt that greater benefit would accrue to the nurses from the new system. The welfare of the nurse should be the foremost consideration. The General Nursing Councils' system meant to him definite uniformity, and the mental nurse would not be differentiated in any way from any other nurse throughout the country. It was a step that would increase the self-respect of the mental nurse, and would lead to her betterment. The question of fees should not be brought into such a discussion; it was a far higher and bigger question than that.

It seemed to him that the proposer and seconder of the resolution seriously weakened their position when they stated they were willing to have the Royal Medico-Psychological Association examinations subject to the supervision and standards the General Nursing Councils might think fit to impose, and then stated that such an arrangement was analogous to the situation which existed between the General Medical Council and medical professional examinations. He did not consider this a true analogy, because he did not see how the General Nursing Council could establish adequate supervision while the examination, in reality, was still in the hands of the Royal Medico-Psychological Association. Such an arrangement would inevitably lead to friction and discord.

A truer basis of comparison is the position which exists regarding the examinations for the certificate of the Association and the present diploma in psychiatry. It is well known that in recent years Assistant Medical Officers in mental hospitals have not thought it worth while to take the certificate because they found it was of no particular help or benefit to them. This was recognized, and certain universities substituted a Diploma in Psychiatry which has set a better and higher standard. In this matter, therefore, the Association has largely ceased its activities,

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[* At the Annual Meeting in Birmingham, 1925, it was resolved that every mental institution should be circularized, recommending that nurses should enter for the Association's Preliminary examination at the end of their first year of study, and during their second year to enter for the First examination of the General Nursing Council, as this would enable them to take either or both Final examinations, and obtain a certificate in general nursing with least delay and difficulty.—EDS.]

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because a better degree has been introduced. It is important to realize that the first part of the examination for the Diploma in Psychiatry is conducted by examiners, many of whom are not members of the Association. There is hardly any doubt that the standard of medical officers has been greatly improved by the establishment of this diploma. He thought that if the Association now accepted another system of examination of nurses controlled by a central body, with a uniform standard of conducting the examinations, and the examiners not necessarily attached to a mental hospital, then the nurse herself would feel that she was getting a better examination than under the Association's system.

In brief, those were the reasons he put forward for saying it was a better policy to accept the standards laid down by the General Nursing Councils, rather than to continue training nurses under the Royal Medico-Psychological Association. (Applause.)

Dr. H. WOLSELEY-LEWIS said he would have pleasure in abandoning the resolution sent in his name, and seconding Dr. Henderson's, if that could be allowed.

Permission having been granted by the meeting, Dr. Wolseley-Lewis said he had listened with interest to the remarks of Prof. Robertson and Lieut.-Col. Lord, but there was nothing in those remarks to dissuade him from seconding Dr. Henderson's resolution.

He wished to recall to the senior members of the Association the "good old days," when a great deal of time was spent in the little room at Chandos Street discussing the earlier editions of the Nurses' Registration Bills. What was the position of the Association then? Their anxiety was to get the "asylum attendant," as he was then called, recognized at all; those attendants were so little removed, in the public mind, from the old-time "keeper," that they were entirely ignored by the nursing profession; they were grouped by the public with prison warders and policemen. In fact in the first two Nurses' Registration Bills they were not mentioned at all. Owing to the very praiseworthy efforts of this Association, they did at last gain a place in the sun, and ultimately were included in the Nurses' Registration Acts of 1919, on special Supplementary Registers. It had, however, been considered by the nursing profession as a whole as something of a concession that the asylum attendant was included in these Acts at all. In due course the General Nursing Councils were established, and in the natural order of things they had to consider the question of examinations. Something had already been said about the one-portal system, and he would like to read to the meeting a letter he wrote to the then Chairman of the General Nursing Council for England and Wales, Mr. Priestley, in August, 1921:

"*As Chairman of the Parliamentary Committee of the Medico-Psychological Association, I took an active part in the promotion of the Bill for the Registration of Nurses, and being the physician in charge of one of the largest public Mental Hospitals in the country, I am naturally interested in what is to be the future status of the mental nurse.*

"*I understand that the question as to whether there should be two examinations or one is not yet finally settled for England, but I have seen the syllabus for the first examination to be passed at the end of 18 months for Scottish nurses, and in my opinion it would be advantageous to have a preliminary examination to cover the minimum knowledge that any nurse on the Register or Supplementary Registers of England should be required to possess.*

"*In he interests of the nursing profession as a whole, I would urge that the education and training for this preliminary examination could be taken at any hospital recognized by the Nursing Council, whether General, Mental, Fever or Children's; and that the period of training so spent should be reciprocal between any of these institutions.*

"*To place all forms of training on an equality would do away with petty jealousies between one class of nurse and another, and would tend to do what, after all, was the main object of the Nurses' Registration Act, viz., give every nurse a national qualification and status.*"

It seemed that at first the General Nursing Council did not see eye to eye with him, and the speaker remembered the expression he used when they spoke of the mental nurse being a creature apart, which was, "Am I to conclude, then, that you are prepared to slam the door in the face of the mental nurse?" The Chairman said he would not like to go as far as that, but that a conference of nursing authorities was about to take place, and it would be open to him, Dr. Wolseley-Lewis, to attend and state his case. As a result of doing so, two examinations were

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established, the first to be obligatory for all nurses, and thus a common portal of entrance to the nursing profession came about. This was a matter of very great importance to the mental nurse. It had been suggested that the standard of the first examination was too high, but he would like to say that since the General Nursing Council established the examination, his institution had sent up 81 candidates, of whom 51 had passed, an average of 63%, which, though not as good as he hoped it would be in the future, could not be regarded as a bad start. At any rate it was better to bring the nurses up to the standard than to reduce the standard to the level of the nurses. He had been associated with mental hospitals sufficiently long to have seen the enormous improvement which had taken place in the personnel of the nursing staffs; but still more striking was the favourable attitude, the more tolerant attitude, of the nursing profession generally, and the growing appreciation of the mental nurse by her sisters in other branches of the profession. In support of that statement he would refer to the editorial in *The Nursing Times* of October 28, and a letter from Miss Cowlin, Education Officer for the College of Nursing, dated September 23 last, to a member of his staff:

"*The subject you suggest is excellent, and I am exceedingly grateful to you. I know, however, you will not omit to stress the importance of mental nursing becoming a part of the general nurse's training, and I think you might urge how valuable it would be now for the general trained nurse to supplement her training with a certain amount of experience in a mental hospital.*"

Mediæval ideas with regard to mental nursing were disappearing; the prejudice against the mental nurse was fading away. He was getting an ever-increasing number of secondary school girls as probationers. Princess Mary was taking an interest in mental nursing, and opened the new training school at Barming early last summer. The King, in his Birthday list of honours, recognized mental nurses for the first time. A special board to represent mental nurses was established at the International Nursing Conference at Geneva in July; the universities of London and Birmingham had instituted a diploma in mental nursing; and in America and in most European countries the mental nurse now had a status equal to that of her sisters in other branches. In a word, the mental nurse was emerging from the shadows, and he did not doubt that, in due course, she would take the position which was rightly hers in the full light of day, just as the general nurse did seventy years ago.

He appealed to the younger members of the Association, the superintendents of to-morrow, not to do anything which would tend to lower the status of the mental nurse, not to do anything which would hamper her evolution, not to do anything which would retard her progress towards the place which, he believed, destiny had reserved for her, at the head of the nursing profession. After all, she was the partner of the members of this Association in the treatment of mental diseases, and in relation to no disease, perhaps, was such a partnership of greater importance. Whatever methods of treatment members of the Association might adopt in their work, it was the nurse who carried them out; the doctor might call the tune, but it was the nurse who played it. He invited members to read again the resolution proposed by Prof. Robertson; its very length condemned it! It was full of alternatives and excuses! They knew the motto: "Qui s'excuse, s'accuse." In his opinion, if this resolution was passed to-day it would be a blot on the escutcheon of this Royal Association, which the tears of a generation of mental nurses would not wash out.

Dr. R. Eager said he was pleased to support Dr. Henderson's amendment. He hoped he would not be understood to disparage in any way the Association's nursing examinations, as he had the greatest respect for them. But it was necessary to advance with the times. He did not see why the course of events should not be allowed to continue uninterrupted until a solution of the problem emerged of itself. He did not know why it was said—"We cannot go on running these two examinations." If a nurse did not choose to raise herself and her status, there was no reason why she should go in for the General Nursing Councils' examinations. Let nurses enter for whichever of these examinations they wished to. The General Nursing Council had included mental nursing in their registration scheme, and the speaker considered that this was sufficient recognition of the work the Association had been doing. The new body honoured the Association by accepting its syllabus and course of training practically as it stood, except for a few minor details. The General Nursing Councils' recognition of the mental

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nurse had raised her status, had given her a definite chance to stand on the same footing as the general hospital nurse. She had now an opportunity, which she never enjoyed before, of entering for the same preliminary examination as the general hospital nurse, and if she now wished to go on to general hospital training on passing that examination, she could not in the future have the finger of scorn pointed at her and told that she came from an inferior class. By adopting Prof. Robertson's resolution, the Association would be taking away from the mental nurse the only argument of weight she had in her claim for equality with the general hospital nurse. If she had to confess she had passed only a substitute examination. she would thereby be considered to be an inferior person. In Devon, the committees of the county mental hospitals and the local general hospital at Exeter had come to an arrangement whereby the mental hospital nurses, provided they had the General Nursing Council's certificate in mental nursing, could go to the general hospital for two years' training and pass the State general nursing examination and thereby be doubly qualified and registered as general as well as mental hospital nurses.

Prof. Robertson's resolution would, if carried, imperil those privileges.

The National Asylum Workers' Union were asking the Association to give them a lead in this matter. The President of that body stated very definitely at its last annual meeting that nurses should be encouraged to take the General Nursing Councils' examinations. He hoped the Association would not lead them astray.

He had other points, had time permitted, to advance in support of his views. This was not a matter of personal interests, or whether one examination meant more trouble or more preparation or presented more difficulties than the other or whether they could continue both examinations, or whether one should be given up. The only question was, what was best for the mental nurse. Were members of the Association at that meeting going to advise her to take a course which would raise her status? Status had far-reaching effects according to whether it was raised or lowered. He therefore appealed to his hearers to give this resolution serious consideration before casting a vote in its favour. He urged them, in the strongest possible terms, to support the amendment, and not to adopt a course which, in his opinion, would lower the status of the mental hospital nurse. Rather than do that, matters should be allowed to continue as at present. (Applause).

Dr. Henry Yellowlees supported the resolution, and wished to speak to it from a point of view which had not been sufficiently stressed. He would put before the meeting facts, rather than expressions of opinion. The first was that he was one of those who told Dr. Eager he would not continue to run two examinations much longer, and he would now repeat that statement, and he did not seek to defend it. It was also true that the majority of mental hospitals would not continue to hold two examinations which were independent of each other. Many mental hospitals had never made the attempt, while many more had made it, but had given it up. A certain proportion were still wearily carrying on, saying "How long, O Lord, how long?" The fence was becoming uncomfortably crowded, and those concerned were faced with a choice of two alternatives. Granted that they would not go on indefinitely with two examinations, they were faced with adopting an examination which would give mental nurses a higher status, namely, admission to the State Register—and, incidentally, killing their own Association's examinations—or taking the second alternative, that of sticking to the latter, which would be regarded by the general public as a lower nursing qualification. It seemed to him to be obvious that the resolution of Prof. Robertson offered almost the only hope of a way of escape from an exceedingly difficult position. If this resolution should be carried, one of two things must follow, and whichever followed, members would at least know where they stood—a consummation devoutly to be wished.

The General Nursing Council might, and he hoped they would, accept the Association's examination, subject to such control, guidance and directing care as they might think fit to impose. And if they did that, he could not understand why any body of opinion should have cause of complaint. (Applause.) He failed to see what bearing such a happening would have upon the relation of the general nurse to the mental nurse, and he did not see how it would increase the divorce, if divorce existed, of the general nurse from her sister, the mental nurse. But if there were people who held that view, their remedy was easy; let them cling

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to the General Nursing Councils' examination. There might be people who thought their recognition of the Association's examination was too tardy, or their blessing too qualified, to make a dignified co-operation. It was possible that the General Nursing Councils might prove obdurate and might tell the Association to mind its own business. As he had said, the situation would then remain as it was, with the added consolation that members knew it, and, as an Association, they were faced with the need to decide which murder they would commit. Should they kill their own examination, or should they kill the status of their own nurses? He wanted to say that if before having to face this slaughter they had the consciousness they had at least made a gesture and approached the Council, that would be one thing which had changed it from murder to justifiable homicide. He hoped, very earnestly, that this resolution would be passed. He did not pretend to care tremendously for some of the details of expression, still less did he think that the hint or threat of a brand-new Act of Parliament was likely to influence the General Nursing Councils—at least in the direction desired. But those were small matters. The essence of the resolution was that it was the one way of escape from a grave difficulty. His quarrel with the resolution was that he feared it was too late. The essence of it was a matter which he had, in a humble way, attempted to bring to the notice of members for three and a half years. But "better late than never." He took for his comfort the recollection that many strange things had happened before at the eleventh hour. He hoped the *rapprochement* would be one more to add to the list, and that the passing of this resolution would be the first step towards that end. (Loud applause.)

Dr. A. A. W. Petrie said all members of the Association wanted their nurses to be both trained and registered. What stood in the way of the latter at the present time was the cost of the General Nursing Councils' examinations. If, by negotiation, the Final examination could be got into the hands of the Association, or the General Nursing Council could provide a rather more suitable preliminary examination, he thought their object would have been achieved; they would have their nurses not only educated and trained, but registered. And as the great bulk of the mental nurses were concerned with members of this Association, the position of the Association was an important one, which possibly the General Nursing Council might consider. He had heard that the General Nursing Council expressed the opinion that they had no power to accept other examinations in lieu of their own for registration purposes, and until they obtained powers they would not be able to accept that Association's co-operation.

But Prof. Robertson's resolution opened the way to negotiation. Like most members, he wanted to see the mental nurse brought more into the general fold.

He did not think the M.P.C. and the D.P.M. comparison was a good one; it was rather an example of a better diploma winning its way through, despite its not being registrable. If there was to be special legislation regarding the nursing certificate, the D.P.M. might be advanced to a registrable position, and a status obtained for its holders as was held by holders of the D.P.H.

But the first object should be to negotiate. The problem was largely a question of cost. This depended greatly on the method of conducting the examination. What made the General Nursing Council examination so expensive was having neutral examiners for the oral examinations, and if the Royal Medico-Psychological Association appoints neutral examiners, their examination would be more costly. But he felt that negotiation might lead to what the bulk of the members of the Association desired, namely, that the Preliminary examination should be common to all, and that the Association should be allowed considerable control in regard to the Final examination. (Applause.)

Dr. W. J. T. Kimber said he did not think a charge of being swayed by sentimental reasons should be made against the members supporting Prof. Robertson's resolution. The mental nurse was the superintendent's partner, as Dr. Wolseley-Lewis had already said, and a very small number of mental nurses took the State certificate, while large numbers took the Association's certificate. It looked as if very few of the mental nurses in the country would be registered at all, and superintendents would be working with people without the recognition they ought to have; it would be almost like "covering" unqualified practice. Such a state of affairs ought not to exist.

Dr. Wolseley-Lewis had also said that the mental nurse was now emerging from the shackles in which she had been held in the past, implying that the

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liberation was due to the State examinations. Statistics, however, did not support that; it was due to the efforts of the Association. (Applause.) The mental nurse was improving greatly, and he did not think the mere fact that State registration had been in existence a few years had had a great deal to do with it. All were out for the benefit of the nurse, and members wanted a registered nurse with whom to work. (Applause.)

Dr. Bedford Pierce said he felt it his duty to support the amendment and vote against the resolution. In the first place this was a meeting of medical men, and in his opinion it was undesirable that doctors alone should decide important matters affecting the welfare of nurses. If the Association had nurses as associate members so that nurses and matrons were members of its Education Committee, more might be said for Prof. Robertson's resolution. He felt it was an anomaly —doctors to legislate in this way on matters affecting the nursing profession.

A somewhat fantastic psychological analogy would illustrate this point. This Association has done wonderful work for the training of mental nurses, but it was in danger of being like a mother who objects to her child growing up. Having carefully nurtured it for years she does not feel able to trust it to be independent. We know that disaster is to be expected. Either a mother-fixation keeps the child at home and he never grows up, or the child goes his own way and loses respect for his parent.

He felt that in mental hospitals generally the nursing profession should carry more weight, that the ward sisters should have more authority and the matrons be more independent, so that the status of the nurse should more closely approximate to that in the general hospital.

With reference to the suggestion that the General Nursing Council should supervise the Royal Medico-Psychological Association in the conduct of its examinations, he did not think it likely that a body of doctors would consent to be dictated to by nurses in such a matter. For instance, was it likely that the General Nursing Councils would be able to remove examiners appointed by the Association if in its judgment it became necessary?

Regarding the Preliminary examination, did Col. Lord mean that in future the Preliminary examination should be handed over to the General Nursing Councils and that the Royal Medico-Psychological Association should only be concerned with the Final? He did not understand whether the proposer of the resolution agreed with this. He himself supported Dr. Wolseley-Lewis in the importance of the Preliminary examination being the same for all nurses; that there should be this common ground of training in anatomy, physiology, hygiene and sick nursing for all, whether training for the general register, or the supplementary registers for fever nurses, or mental nurses, or for the nursing of sick children.

At a conference in the early days of the General Nursing Council of England he had advocated this common ground of training, and he felt it extremely important that mental nurses should share in this.

He considered it unfortunate that, if the Royal Medico-Psychological Association objected to the policy of the General Nursing Councils in conducting their own examinations for the registration of nurses, it had not protested before.

Six years ago the Association was fully informed of the policy of the General Nursing Councils, and two years later were aware that its rules were submitted to the Minister of Health and laid on the table of the House of Commons, and yet the Association made no protest.

Before concluding he would like to mention another point. This question of examination is but a small part of the work of the Association. All this fuss is being made about the examination, but the real work lies in the training of nurses.

It is well known that examinations are inadequate as a test of proficiency, and this is particularly so in regard to mental nursing.

Come what may, the Association would continue the training, and he considered that its examinations should be continued for the many nurses who did not wish to be registered, but that the examination for registration be left to the General Nursing Councils. (Applause.)

Dr. H. J. Norman said that most people favoured a spirit of compromise, and though members might feel that State registration was the goal to be worked for in the hope of eventual achievement, the suggestion contained in Prof. Robertson's resolution was one which might tide the Association over. There would then be

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time to look round, and in the process of years to come the General Nursing Councils standard could be approximated to; it had been done in other educational spheres. He was sure the resolution had not been brought forward in any spirit of animosity. There was no difference of opinion among members as to the value of the nurse's work; they realized what improvements had taken place, and part of the credit for that they could take to themselves. If there was to be a satisfactory solution, this, he felt sure, was the way to achieve it. It might not be many years before it was completed. At the present time it was a mere matter of examination fees—that was the crucial point; the nurse found the question of the expense a difficult one; it was not so much a question of the standard of examination. He favoured this attempt to compromise. (Applause.)

Dr. J. G. SOUTAR said it seemed that Dr. Bedford Pierce imagined that on this question the Association had had no policy, beyond accepting that of the General Nursing Council. That was not so. From the commencement of these negotiations there was a party in the Association who claimed that the Association's examination should be the one to qualify the nurse for admission on the State register. He wished to enter a protest against the suggestion that the Association had been altogether remiss in this matter. Had the Association from the first urged with determination the sufficiency of the Association's examination for nurses' registration, they would probably have won the day. But there was capitulation. That, however, was no reason why, at the eleventh hour, a stand should not be made; and he thought a successful stand could now be made on the basis of Prof. Robertson's resolution. (Applause.)

Dr. DONALD ROSS wished to support Prof. Robertson's resolution. He thought both sides in this matter were really striving, in the main, after the same thing. Various appeals had been made, *ad misericordiam*, not to do anything to harm the nurses. He did not think any harm would be done them; their status was largely in the hands of the Association. In his view the improvement in the status of the nurse was not due to this State registration. Was not the status of the doctor improving? The general public was now learning more, and, from a variety of causes, the mental nurses' hospital work had come more into the open, and the public had begun to realize what those engaged in mental hospitals had done and were doing. He did not agree with the remark made by Dr. Bedford Pierce that the Association in the past had made no protest.

Dr. Bedford Pierce also protested against a meeting of doctors deciding on a matter which concerned nurses; there was much to be said for that, but, after all, was it the medical students who decided about professional training and examinations? No.

Dr. Yellowlees had spoken of the difficulty of running two examinations. What was really meant was the difficulty of preparing candidates for two examinations. At his institution there had been no candidates for the General Nursing Council examination; but if anyone had wished to enter for it, they would have had the same training. One speaker thought this resolution was too late, but he, the speaker, did not agree with that view; in fact he regarded the present moment as opportune. At first the work of the Association in this matter was not well understood by those who laid down General Nursing Councils' rules and regulations. The General Nursing Councils now knew more about the Association, and understood it better, and so, it was to be assumed, they would be more ready to meet the Association; indeed General Nursing Councils might welcome this approach.

Dr. Eager seemed to assume that the General Nursing Councils' examination was of a higher standard than the Association's, but he did not agree with that either; he thought it had been the aim of the General Nursing Councils to make it more or less the same. Neither did he agree that the status of the nurses would suffer if the object of the resolution was attained.

The question of one portal for nurses had been stressed, but there were four possible portals under the General Nursing Council Acts. The Association, however, had an Imperial portal, covering Great Britain, the Dominions and the Colonies, and it had behind it the opinion of the 1905 Select Committee. Some of the remarks in the Report of the Royal Commission on Lunacy and Mental Disorder could be quoted in support of this resolution. Now the Association had a Royal Charter, it had a greater claim for recognition. (Applause).

Dr. NOEL SERGEANT said he thought Prof. Robertson's resolution represented the only concrete proposals for action; and no speaker had pointed out anything

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inherently evil in them. The chances of success with the General Nursing Council would be enormously increased if there were greater unanimity among members of the Association on the subject.

Dr. G. W. SMITH said he wished to support Prof. Robertson's resolution. The comparative figures of the nurses entering for the State registration examination and the Association's examination spoke for themselves. He had no information or explanation as to why there should be such a wide discrepancy between the figures. He had a fear that the State examination had not been accorded the support it should have had throughout the country. It was his feeling that Prof. Robertson's resolution was going to break down the barrier existing—sentimental, defensive and otherwise—to entrance to this examination. The Association was evidently hostile to the machinery of the General Nursing Councils' examination. There were many practical difficulties in the way of conducting the latter examinations, and he believed none had been removed, nor had any attempt been made to ocercome them. If the Association now passed Prof. Robertson's resolution, he thought those difficulties would be in the way of being solved. Having offered the Association's machinery to the General Nursing Councils, he thought that, without lowering the standard in any way, the Nursing Councils would gratefully accept this machinery, and thus the *impasse* might be removed. (Applause.)

Dr. W. F. MENZIES said that after listening to most of the debates which had been held by this Association for 39 years, he could say that he had never heard more charming speeches than those delivered by the proposer and seconder of the resolution. They were maintained at a very high level, and dealt with principles rather than with details. But, however much one sympathized with their object, he thought it was necessary to mention a few details now and again. He referred to the details in regard to which the Association's examination fell short of the State examination.

It was said that the Association's examination was too difficult. That might be, but the difficulty lay in the medical, theoretical or written part. Their examination fell short of the State examination in the practical details of nursing. *i.e.*, in the bedside work.

The second point concerned a live register. If the Association had had a live register, he would have been glad to support Prof. Robertson's resolution; but how could members take steps to ask the General Nursing Council to accept the Association's examination when it had no live register? It would be easy to have one; there was no need to charge a fee; a notice could be sent round each year, and after replies had been received, those who did not reply could be crossed off the register. And if in addition lines of approach nearer to the Nursing Councils' examination could be established, two difficulties would have been removed from the Association's examination. It has been said that those who were twenty years ahead of public opinion were cranks; those who were five years ahead made their fortune. He, the speaker, was a crank. As far back as 1888 he suggested areas for the nursing examination so as to avoid the teacher being the examiner. That had been partly met by establishing general examiners, but much still remained to be done in regard to the oral and practical part of the examination. Their nurses did not always get enough sick-nursing training in the mental hospitals, therefore he would like to see nurse coadjutors limited to doubly-qualified nurses only.

He had been on the Education Committee of the Association practically all his official life, and had always tried to work for the good of the Association, especially in the matter of the training and examination of mental nurses, and he would have liked to see what he had referred to carried out. If these arrangements had been in existence to-day, he could have supported Prof. Robertson's resolution; as matters were, however, that was impossible.

Dr. C. W. FORSYTH supported Prof. Robertson's resolution, and expressed his disagreement with Dr. Menzies' statement that the nursing part of the Association's examination was not equal to that of the General Nursing Council. Nurse-examiners assured him that the examination of the Royal Medico-Psychological Association was as stiff as that of the General Nursing Council, and that the candidates were as efficient.

Prof. ROBERTSON, in reply, said he would first wish to express his very great pleasure at the reception which had been accorded this subject at the hands of

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the Association, and the pleasant way in which it had been discussed by all the speakers.

The speech which interested him most was that of Dr. Bedford Pierce, who had had such a long connection with the nursing side of the specialty; he was one of the two representative members of the Association of psychiatry on the General Nursing Council of England and Wales. Scotland had no representative on its General Nursing Committee at all.

Dr. Bedford Pierce said in his speech that it was not quite proper that questions concerning nursing should be decided upon by a meeting consisting of doctors only, and that nurses ought to be present. He, Prof. Robertson, agreed that nurses should be more represented on the Educational Committee of this Association than they had been so far, but it was known that nurse examiners had been added to the list of examiners of the Association for some time. He would point out to Dr. Bedford Pierce that the subject had been in the hands of nurses in the General Nursing Councils, who were practically all general hospital nurses, and who not only had no interest in mental hospitals, but looked down on mental nurses. Therefore the state of affairs on the General Nursing Councils was much worse than if they had consisted of doctors.

Dr. Bedford Pierce also thought it unfair that the General Nursing Councils should be attacked at this late stage. The speaker's reply to that was that there had been no attack on the General Nursing Councils. The Association had no desire to interfere with the privileges or lessen the prerogatives of the General Nursing Councils of England, Scotland or Ireland; it was the intention of the resolution that their powers should be extended, and that they should have the right of inspecting the Association's examinations and collaborating with the Association as to the basis of its examinations. It seemed, therefore, a rather unfair statement on the part of Dr. Bedford Pierce after this Association had allowed the General Nursing Councils to have "a fair field and no favour." It was said by some that the nurses' position must be considered. He, Prof. Robertson, wished to put the point forward that 3,500 nurses during the last three years had gained the certificate of the Association but were not on the State register, and in a couple of months there would be 5,000 of them in the same position. What was to happen to them? The Association had great interest in those they had trained; it was for them that something was required to be done, and it was only when it was discovered that only 126 mental nurses had got on to the State register in three years, as against 3,500 who held the Association's nursing certificate and who had been debarred from that register during the same period, that it was felt, even at this eleventh hour, that something should be done in the way of the Association holding out the hand of friendship to the General Nursing Councils to see if they would co-operate with them and so help to overcome the deplorable injustice *impasse* that had arisen.

And there was another point of very great importance. Dr. Eager had laid great stress on the Preliminary examination, stating that there should be identity as to that for the mental nurses and the general hospital nurses, and Dr. Bedford Pierce referred to the same matter, remarking that it would be a great thing if there could be some common ground, indicating this Preliminary examination. He, the speaker, had no objection to this being done, and he thought there were no insuperable difficulties in the way of it. The Preliminary Examination of the General Nursing Council of Scotland was already recognized by the Association. If the two bodies would approach the matter in a reasonable way, in the spirit of give and take, most, if not all the difficulties would be overcome. Therefore he appealed to the Association, in view of this state of affairs, to pass this resolution, seeing that at the present time the State Register was, for mental nurses, practically a dead letter.

Before he sat down he, Prof. Robertson, would like to refer to another point in Dr. Eager's speech. Dr. Eager told us that the National Asylum Workers' Union desired a lead from the Association on this matter, and that the President of the Union at its last annual conference stated very definitely that mental nurses be encouraged to take the General Nursing Councils' certificate, but Dr. Eager, in his anxiety to support his amendment, omitted to say that the President failed to take his hearers with him, and that the Conference* passed a resolution "That

* Vide *Journ. Ment. Sci.*, October, 1927, p. 774.

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pressure be brought to bear upon the General Nursing Councils to accept holders of the Royal Medico-Psychological certificate on payment of a registration fee," and further that a resolution in favour of advising nurses to obtain the State mental nursing certificate irrespective of obtaining the Royal Medico-Psychological nursing certificate was lost. (Loud applause.)

The PRESIDENT said that before he put the resolution to the meeting he had some announcements to make. He had been asked by Mr. Feldon, of the Mental Hospitals Association, to read to the meeting the following resolution, which had been passed by that Association:

"The Mental Hospitals Association has resolved to support strongly the Royal Medico-Psychological Association in any efforts they may make to obtain recognition of their examination as a portal to State Registration." (Applause.)

The President went on to say that the General Secretary had received many apologies from members who found themselves unable to be present. He regretted there was no time to read the letters.

The President then put the resolution to the meeting, and on a show of hands being taken 49 voted for and 13 against the resolution. He declared the resolution carried by a majority of 36 out of 62 votes. (Loud applause.)

Dr. H. YELLOWLEES expressed a hope that there would be no delay in taking action and asked what the procedure would be.

The PRESIDENT assured the meeting that the Council would take action forthwith.

The meeting then terminated.

As there was no time to read to the meeting letters from members unable to attend, a synopsis of these letters is added:

Dr. H. de M. Alexander: *"I am entirely in sympathy with the resolution."*

Dr. John Bain: *"I am in entire agreement with the resolution as it stands."*

Dr. G. N. Bartlett: *"I am in agreement with the resolution, and hope it will be carried as it stands."*

Dr. P. W. Bedford: *"I am strongly in favour of the resolution to be proposed by Prof. Robertson and would like to register my vote in support of it."*

Dr. Lewis C. Bruce: *"I am in favour of the resolution."*

Dr. Henry Carre: *"I wish to inform you that I am entirely in agreement with the resolution."*

Dr. Geoffrey Clarke: *"I am in favour of the resolution as it stands."*

Dr. M. A. Collins: *"I am entirely in favour of the proposed resolution."*

Dr. T. M. Davie: *"I am in entire agreement with the resolution."*

Dr. J. Francis Dickson: *"I am afraid it is useless to put this matter forward. As a matter of fact, the analogy of the General Medical Council and the medical profession does not exist, seeing that at present medical registration is not, as in the case of nursing registration, under a 'one-portal system.'*

"Whilst sympathizing with the desire for the Association to keep up its educational work, I think the certificate must in future be looked upon and developed into a higher qualification, *non-registrable, and obtainable only after having been (say) two or three years on the Register. I shall be glad to support any movement in this direction."*

Dr. T. C. Graves: *"I may say that I should, if I attended, support the resolution."*

Dr. John Keay: *"I am entirely in agreement with the resolution."*

Dr. John Macarthur: *"The three members of the R.M.P.A. resident at Bracebridge are in entire agreement with the resolution, and hope that the Association will make every endeavour to carry it into effect."*

Dr. J. G. Porter Phillips—*"begs to say he is in complete agreement with the views of Prof. G. M. Robertson . . . and would much like to associate himself with the resolution."*

Dr. David Rice: *"I am in favour of the general idea of the proposed resolution."*

Dr. Ernest F. Sall: *"I wish to support the resolution."*

Dr. G. H. Harper Smith: *"I should like to stress my strong support of the resolution."*

Dr. F. R. P. Taylor: *"Were I able to be present, I should most certainly support the resolution."*

Dr. W. J. Vincent: *"I would certainly support Prof. Robertson's resolution."*

A special meeting of the Council is to be held in January to decide on the steps to be taken to carry out the resolution carried at this meeting.

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SOUTH-EASTERN DIVISION.

THE AUTUMN MEETING of the Division was held, by kind invitation of Dr. R. J. Stilwell, at Moorcroft, Hillingdon, Uxbridge, on Thursday, September 29, 1927.

There were present thirty-six members.

Members were taken in parties round the house, and were shown and appreciated the wealth of historical interest, architectural beauty and modern scientific therapy which it provided.

They were then entertained to luncheon, Dr. Stilwell presiding. At the conclusion of the luncheon, after some remarks by Lt.-Col. LORD, Sir ROBERT ARMSTRONG-JONES proposed the health of the Chairman, to which Dr. STILWELL replied.

At the meeting which followed Lt.-Col. J. R. LORD, Ex-President, took the Chair.

The minutes of the last meeting were taken as read and confirmed, and signed by the Chairman.

It was left to the Secretary to arrange the date and place of the Spring Meeting, 1928.

A preliminary Divisional Clinical Committee was appointed, consisting of Drs. Cedric Bower, Helen Boyle, W. Brooks Keith, R. M. Macfarlane, E. D. T. Roberts and Isabel G. H. Wilson, with power to co-opt. The Committee to investigate the best manner in which the Division could be subdivided into N.E., S.E., Western and Metropolitan areas for the purpose of holding clinical meetings, to get into touch with members, more particularly assistant medical officers, on this matter, and to find a member in each of these areas to act as Secretary for such clinical meetings.

The Chairman then spoke on the desirability of electing Divisional Chairmen who would be Vice-Presidents of the Association. The meeting expressed its approval of the letter from the General Secretary on the matter.

Dr. JAMES then read his paper on "Surgical Emergencies in Psychiatry." This was followed by a discussion in which the CHAIRMAN, Dr. A. C. HANCOCK, Dr. A. A. W. PETRIE, Dr. J. BRANDER and Sir ROBERT ARMSTRONG-JONES took part.

Dr. HARDCASTLE then read his paper on "Acetonuria: Some Laboratory Findings." The Chairman voiced the appreciation and thanks of the members for this paper.

The members were then taken in cars to Hayes Park, where they were refreshed with tea, and given opportunities to inspect this house and afterwards Mead House.

SOUTH-WESTERN DIVISION.

THE AUTUMN MEETING of the Division was held, by kind invitation of Dr. J. D. Thomas, at Northwoods House, Winterbourne, near Bristol, on Thursday, October 27, 1927. Twenty-one members and one visitor were present.

Dr. J. G. Soutar was voted to the Chair and the minutes of the last meeting were confirmed and signed.

Apologies for absence were received among others from Lt.-Col. J. R. Lord, Lt.-Col. E. Goodall, Drs. Barton White, R. Eager and G. W. T. H. Fleming.

The question of the formation of clinical areas in the Division was discussed, and it was suggested that five such areas might be formed, with centres at Cardiff, Bristol, Oxford, Exeter, and Salisbury (or ? Dorchester). Letters on the subject from Drs. Barton White, Eager and Fleming were read, and the Hon. Div. Secretary was instructed to get into touch with certain members in the other areas as to their willingness to act as members of the Divisional Clinical Committee.

The proposal of the Ex-President (Lt.-Col. Lord) as to the appointment of a Vice-President in each Division to act as Chairman at its meetings was adopted without any amendment.

Dr. R. W. BRANTHWAITE suggested that the Spring Meeting on April 26, 1928, might be held at Stoke Park Colony, Bristol. This was agreed.

Dr. J. MCGARVEY, Medical Superintendent, Wells Mental Hospital, then introduced a discussion on "The Sterilization of Mental Defectives." The following members joined in the discussion: Drs. R. W. BRANTHWAITE, J. V. BLACHFORD,

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R. N. CRAIG, N. R. PHILLIPS, A. C. KING-TURNER, W. BROWN (Bristol) and the CHAIRMAN.

Dr. McGARVEY replied briefly.

The members had the opportunity of inspecting the hospital before the meeting, and were most hospitably entertained to lunch and tea by Dr. and Mrs. Thomas, to whom a hearty vote of thanks was accorded.

NORTHERN AND MIDLAND DIVISION.

THE AUTUMN MEETING of the Division was held, by courtesy of Dr. G. L. Brunton and the Committee of Visitors at the Nottingham City Mental Hospital, Mapperley Hill, on Thursday, October 20, 1927.

There were present twenty-six members and two visitors.

Members were shown over the hospital in the forenoon. The nurses' home, paranoiacs' rock garden and poster corridor were objects of special interest.

Dr. Brunton and the Committee entertained the visitors to lunch, at which the Chairman of the Hospital Committee presided.

A vote of thanks was moved by Dr. C. H. Bond and seconded by Lt.-Col. J. R. Lord, and carried unanimously. In his remarks Dr. Bond referred to the progressive spirit which animated the Hospital Committee, and to the work which they were doing. He congratulated the Chairman on the fact that the Nottingham authorities had established an institution for their mental defectives.

Dr. Brunton having been elected to the Chair, the minutes of the Spring Meeting were read and confirmed signed by the Chairman.

The formation of Divisional areas for clinical meetings was discussed.

Lt.-Col. LORD stated that Divisional clinical meetings were primarily intended to meet the interests of the assistant medical officers, as in the case of the Maudsley meetings, but he attached the greatest importance to local general practitioners being also invited, and gave his reasons why. He stated that the work of the sub-committee on special subjects of the Research and Clinical Committee is to be differentiated from the Divisional clinical meetings. He was of opinion that it was the discussion on actual cases which was of great advantage both to the doctor and to the patient.

Dr. MENZIES remarked that hospitals situated in an isolated position would experience difficulty in getting members to attend.

Dr. J. E. MIDDLEMISS suggested that areas be delineated and the meetings distributed among the hospitals in each area.

The CHAIRMAN (Dr. BRUNTON) showed a map which he had prepared with the provisional areas marked, each of which contained a University centre.

Dr. J. I. RUSSELL considered these areas too large, and remarked that the success of the meetings would depend upon the attendances and amount of clinical material available.

After further discussion, in which several members joined, it was agreed that the following provisional areas be recognized, and that a Committee be formed to subdivide or otherwise arrange these areas if desirable. The areas are Birmingham, Leeds, Manchester, Newcastle-on-Tyne, Nottingham and York.

The following were elected members of the Divisional Clinical Committee to carry out these arrangements and report to the Division: Dr. A. T. W. Forrester, Prof. J. Shaw Bolton, Dr. Dove Cormac, Dr. M. T. Archdale, Dr. G. L. Brunton, Dr. J. I. Russell.

It was proposed by Dr. MATHIESON and seconded by Dr. J. M. MACKENZIE that this Committee have power to co-opt members to meet them before their report is submitted to the Division. This was agreed to.

The following were elected, by ballot, ordinary members of the Association:

JAMES WOODMAN ASTLEY COOPER, L.S.A., L.R.C.S., L.R.C.P.Lond., etc., Middleton Hall Private Mental Hospital, Almora Hall, Middleton St. George, co. Durham.

Proposed by Drs. J. B. Tighe, G. E. Mould and D. H. Cameron.

THOMAS COOK BARKAS, *O.B.E.*, M.B., B.S.Durh., Resident Medical Officer, Middleton Hall, Middleton St. George, co. Durham.

Proposed by Drs. J. B. Tighe, G. E. Mould and D. H. Cameron.

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No invitations having been received, it was left to the Hon. Secretary to fix the date and place of the 1928 meetings.

A letter was read from Mrs. Simpson conveying thanks for letter of sympathy received from the Division.

Document B of the proposal, referred to the Divisions by the Council to appoint annually Chairmen of Divisions who would be Vice-Presidents of the Association, was considered; it was explained that the Vice-President would be one of the Divisional Representative Members of Council. It was recommended that chairmen of Divisions should be members of not less than 10 years' standing. All queries in the document were unanimously approved.

Dr. BRUNTON brought forward a proposal that the date of the Autumn Nursing Examinations be altered to the last Monday in November and the first Monday in December. He stated that at present he had to hold a course of lectures in August, September and October to prepare candidates for the examination, but these were the main holiday months for the teaching staff and therefore it was difficult to train the candidates and to maintain the proper care of the patients.

It was resolved that Dr. Brunton's proposal be forwarded to the Council for consideration.

Dr. E. MILDRED CREAK read a paper, "Classical Mental Symptoms arising from Gross Bodily Disorders" (*vide* p. 94).

Dr. T. WISHART DAVIDSON read a paper on "Cardiac Infarction." Specimens, photographs and X-ray films were shown (*vide* p. 92).

The CHAIRMAN congratulated and thanked both Dr. Creak and Dr. Davidson for their interesting communications.

After the meeting members were kindly entertained to tea by Mrs. Brunton.

SCOTTISH DIVISION.

THE AUTUMN MEETING of the Scottish Division was held in the Royal College of Physicians, Queen Street, Edinburgh, on Friday, December 2, 1927.

There were present Dr. Hamilton Marr (the President of the Association), Dr. W. M. Buchanan (Divisional Secretary), and 27 other members. Dr. M. A. Bliss, St. Louis, U.S.A., was present as a visitor.

Dr. R. D. Hotchkis, Divisional Chairman, occupied the Chair.

Before taking up the ordinary business of the meeting, the Chairman feelingly referred to the death of Dr. J. Carlyle Johnstone, the oldest member of the Division, and for 32 years Medical Superintendent of the Roxburgh District Asylum, Melrose. Prof. G. M. Robertson and Dr. Donald Ross also paid tribute to Dr. Carlyle Johnstone's memory, referring in particular to his charm of disposition, his literary and artistic tastes, and his work at the Roxburgh District Asylum, for the training of nurses, and for the passage through Parliament of the Asylums Officers' Superannuation Act. It was unanimously resolved to record in the Minutes that the Members of the Scottish Division of the Royal Medico-Psychological Association desire to express their deep sense of the loss sustained by the death of Dr. Carlyle Johnstone, and their sympathy with the members of his family in their bereavement. The Secretary was instructed to send an excerpt of the Minute to the relatives.

The Minutes of last Divisional meeting were read and approved, and the Chairman was authorized to sign them.

Apologies for absence were intimated from Drs. T. C. Mackenzie, H. Carre, J. H. C. Orr, and R. B. Campbell.

The business committee was appointed, consisting of the nominated member of Council, the two representative member of Council, the Chairman of the Division, Dr. W. M. McAlister, and the Divisional Secretary.

Dr. R. B. Campbell and Dr. Neil T. Kerr were nominated for the position of Representative Members of Council, and Dr. W. M. Buchanan was nominated for the position of Divisional Secretary.

The meeting then took into consideration the proposal to establish a Clinical Committee to organize Clinical Meetings in the Division. On the motion of Dr. Keay, seconded by the President, it was unanimously resolved to adopt the proposal subject to modification to meet local conditions in the Division, and it

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was remitted to the Business Committee to consider the question and report with recommendations.

The meeting unanimously approved of the proposal to appoint annually five Vice-Presidents, one by each Division, the Vice-President so elected to be also Chairman of the Division electing him. With regard to the details of the scheme, these were also unanimously approved except (1) that the Division considered that no term of years of membership should be laid down to make a member eligible for election as Vice-President, and (2) that the duty of a Vice-President "to make a point of becoming personally acquainted with all new members of his Division, etc.," should be modified by the insertion of the words "so far as possible," in front of "make," in view of the scattered nature of the hospitals in the Scottish Division.

An invitation was extended to the Division to hold its next meeting at the Crichton Royal Institution, Dumfries. Dr. Easterbrook was thanked for his invitation, and it was agreed to hold the Spring Meeting at Dumfries in May, 1928.

Prof. G. M. ROBERTSON delivered an address on "The Voluntary Admission of Parochial Patients to the Mental Hospitals in Scotland." After reviewing the history of voluntary boarder legislation in Scotland, it was pointed out that 60% of private patients (excluding service patients) are now admitted voluntarily to Scottish Mental Hospitals, while the proportion of rate-aided patients admitted voluntarily, though increasing, last year was only about 3%. The reasons for the difference between the numbers of parochial and private voluntary admissions were then analysed. The advantages of early voluntary admission were pointed out, and an eloquent plea was made for the extension and encouragement of it in parochial cases. An interesting discussion followed, taken part in by the PRESIDENT, Drs. R. MARY BARCLAY, P. STEELE, DONALD ROSS, S. R. MACPHAIL, J. H. SKEEN, C. J. SHAW and M. A. BLISS, all of whom desired to see an extension of the voluntary system to all parochial patients.

A vote of thanks to the Chairman terminated the business of the meeting.

IRISH DIVISION.

THE AUTUMN MEETING of the Irish Division was held at the Royal College of Physicians, Dublin, on Thursday, November 24, 1927.

Dr. D. L. Kelly, Inspector of Mental Hospitals, Irish Free State, and 12 other members were present.

Dr. J. O'C. Donelan having been called to the Chair, the minutes of the previous meeting were read and approved and signed by the Chairman.

A letter of apology for unavoidable absence was read from Lieut.-Col. Dawson, who kindly forwarded a valuable communication *re* the business of the meeting.

Correspondence from the Secretary of the Association *re* the election of Divisional Secretary and Representative Members of Council was read, also a recent communication *re* the recognition of the Nursing Certificate of the Association by the General Nursing Council. Prof. Robertson's resolution anent this matter, which was carried by a large majority at the Quarterly General Meeting of the Association, held in London on November 17, was cordially approved, and the Hon. Secretary was directed to forward a letter to the General Nursing Council, asking them to recognize the Certificate of the Association for registration, as they had not set up any examining body of their own, and to address a similar letter to the Minister for Local Government.

The meeting then proceeded to ballot for the election of two new members. Dr. Keene and Dr. Mills were appointed scrutineers. On a ballot being taken, it was declared by them that Dr. MARION WHITE, Assistant Medical Officer, Portrane, and Dr. JOSEPH KEARNEY, Assistant Medical Officer, Tirconaill District Mental Hospital, were elected members of the Association.

The meeting next considered, clause by clause, a memorandum *re* the establishment of Divisional Clinical Meetings, and, as amended, it was directed that the memorandum be now issued to the medical superintendents of all mental hospitals in Ireland, with a covering letter stating that it was desirable that they should bring it prominently before their committees, and urge strongly upon their committees the necessity for doing all in their power to establish and assist these

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Clinical Meetings, for the advancement of psychiatry and the benefit of the mental patients in their several districts.

The question of the appointment of a Vice-President and Chairman of the Divisional Meetings being *sub judice* by the Association was not considered further than to endorse the approval given at the previous meeting.

Dr. M. J. NOLAN then read a paper on " Hallucinations and Sanity " (*vide* p. 49).

The meeting cordially thanked Dr. Nolan for his most interesting and valuable communication, in which he elucidated many psychological, legal and clinical problems.

The meeting next considered the advisability of appointing a Business Committee of the Division. A resolution was proposed by Dr. Kelly, seconded by Dr. Mills, and carried unanimously :

" That a Business Committee be appointed to carry out the arrangements for the proposed Clinical Meetings. The Committee to consist of the following six members of the Division, with power to add to their number :

Lieut.-Col. W. R. Dawson, Drs. J. Dunne, N. B. Norman Graham, D. L. Kelly, C. B. Molony, and P. Moran."

Dr. T. A. GREENE introduced a discussion on the recently issued Report of the Commission on the Relief of the Sick and Destitute Poor, including the Insane Poor, as it contained many matters vitally affecting the care and treatment of the insane in Ireland. It was proposed by Dr. Greene, and seconded by Dr. J. O'C. Donelan, that a Sub-Committee of the Division be appointed to consider this Report and draw up a memorandum for submission to the Government, the Sub-Committee to consist of the following members : Drs. J. O'Conor Donelan, P. O'Doherty, L. Gavin, T. A. Greene, J. C. Martin, and J. Mills.

The Sub-Committee would be summoned by the Hon. Secretary to meet at an early date.

This terminated the proceedings.

EDUCATIONAL NOTES.

The Maudsley Hospital, Denmark Hill, S.E. 5 (*University of London*).—Lectures and Practical Courses of Instruction for a Diploma in Psychological Medicine, Course XI.

Part I, commencing on January 4, 1928.

(1) Twelve lectures on the Physiology of the Nervous System, with Demonstrations in Physiological Psychology. By F. Golla, M.B., F.R.C.P.

Six lectures and demonstrations on the Bio-Chemical Aspects of Mental Disorders and Laboratory Methods. By S. A. Mann, B.Sc.Lond., F.I.C.

(2) Eight lectures on the Anatomy of the Nervous System. By G. Elliot Smith, M.A., D.Sc., Litt.D., M.D., F.R.C.P., F.R.S.

Practical Instruction and Demonstrations. Demonstrator, Charles Geary.

(3) Eight lectures on Psychology. By Henry Devine, *O.B.E.*, M.D., F.R.C.P. Followed by Course of Practical Instruction.

Part II will follow in March, 1928, and will include lectures and demonstrations on the following subjects. A detailed time-table will be issued later.

Eight lectures on the Psychoneuroses. By Bernard Hart, M.D., F.R.C.P.

Eight lectures on Morbid Psychology. By Edward Mapother, M.D., F.R.C.P., F.R.C.S.

Four lectures on the Pathology of Mental Diseases. By F. Golla, M.B., F.R.C.P. Followed by four Demonstrations in Pathological Anatomy, by Charles Geary.

Two lectures on the Legal Relationships of Insanity, and Treatment. By C. Hubert Bond, *C.B.E.*, D.Sc., M.D., F.R.C.P.

Six lectures on the Practical Aspect of Mental Deficiency. By F. C. Shrubsall, M.D., F.R.C.P.

Four lectures on Crime and Insanity. By W. Norwood East, M.D.

Three lectures on Therapeutics in Mental Disorders. By A. A. W. PETRIE, M.D., M.R.C.P., F.R.C.S., D.P.M.

Six Demonstrations in Clinical Psychiatry. By Edward Mapother, M.D., F.R.C.P., F.R.C.S.

Twelve Clinical Demonstrations in Neurology. By F. Golla, M.B., F.R.C.P., and F. M. R. Walshe, D.Sc., M.D., F.R.C.P.

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Two lectures on Abnormalities of the Fundus Oculi. By R. Foster Moore, *O.B.E.*, M.A., B.Ch., F.R.C.S.

Posts as voluntary clinical assistants at the Maudsley Hospital may be granted without fee to practitioners of both sexes specializing in psychological medicine. These appointments can be either for whole or part-time work in wards, out-patient department or laboratories as desired. They can be held in conjunction with attendance at either part of the course for the Diploma in Psychological Medicine. Such an appointment will satisfy the requirements of the various examining bodies in respect of clinical experience of mental disorders for the D.P.M. or for the M.D. in psychological medicine; its necessary duration depends on whether it is whole or part time. There are various other opportunities for clinical study, also without fee, to all attending the course. Applications and inquiries regarding these clinical facilities should be made to the Medical Superintendent of the Hospital.

Fees: For the whole course of Parts I and II, £15 15*s.*; for Part I separately, £10 10*s.*; for Part II separately, £10 10*s.*; for one single series of lectures in Part I, £4 4*s.*; for one single series of lectures in Part II, £2 2*s.*; for one single series of demonstrations only, £1 1*s.*

Inquiries as to lectures, etc., should be addressed to "The Director of the Central Pathological Laboratory," Maudsley Hospital, Denmark Hill, S.E. 5.

National Hospital, Queen Square (Medical School).—A Post-Graduate Course on Diseases of the Nervous System will be held from January 30 to March 23, 1928.

The General Course will consist of Clinical Lectures and Demonstrations, Teaching in the Out-Patient Department, and Pathological Lectures and Demonstrations. The Fees for this Course will be £5 5*s.* A course of lectures on the Anatomy and Physiology of the Nervous System will be arranged if there are sufficient applicants. Fee £2 2*s.* A course of Clinical Demonstrations on Methods of Clinical Diagnosis in Diseases of the Nervous System will be given. Fee £2 2*s.*

All inquiries should be addressed to the Secretary, Medical School, National Hospital, Queen Square, London, W.C. 1.

Institute of Psycho-Analysis at the London Clinic of Psycho-Analysis, 36, Gloucester Place, W. 1.—On Friday evenings, at 8.30 p.m., commencing January 27, a Course of Lectures will be given to Medical Practitioners and Medical Students on Psycho-Analytical Contributions to Psychiatry, by John Rickman, M.D. Fees for the course: 30*s.* to medical practitioners; 15*s.* to medical students.

Application for tickets may be made to the Hon. Secretary, at the Clinic.

ST. ANDREW'S HOSPITAL, NORTHAMPTON.

Opening of a New Reception Hospital.

A memorable day in the history of St. Andrew's Hospital will be Friday, October 14, 1927, for that day saw the opening of its new reception hospital by the Lord Chancellor of England.

This separate building, specially designed and equipped for the treatment of early cases of mental disorder, had been contemplated for many years. In 1915 a scheme for this purpose, prepared by Dr. Daniel Rambaut, the Medical Superintendent, was considered, and would have been carried out ere now but for the intervention of the Great War. The project was revived in 1923, when a Sub-Committee of the Governors was appointed to bring it about. In order to ensure that the reception unit would provide the best modern methods in the diagnosis and treatment of mental disorders, the Sub-Committee, accompanied by the Medical Superintendent and Mr. Sidney Harris, F.R.I.B.A. visited widely, both at home and abroad, other mental institutions.

The foundation stone of the new reception hospital was laid on June 27, 1924, by Christopher Smith, Esq., M.A., *J.P.*, *D.L.*, Chairman of the Committee of Management since October, 1897, and a Governor of the Hospital since 1879.

Before describing the new building, a brief account of the history of this famous hospital will be of interest.

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Historical Résumé.

Registered Hospitals were defined by the Lunacy Act of 1845 as institutions where mental patients are received and supported wholly or partly by voluntary contributions, or by any charitable gift, or by applying the excess of payments of some patients for or towards the benefit of other patients. The Act required these hospitals to be registered with the Lunacy Commissioners. The definition has remained unaltered.

The governors of these registered hospitals derive no financial benefit from them. If the income exceeds the expenditure, the balance may be also spent in improvement of the hospital. The services of the governors and their committee of management are gratuitous.

The first donation towards the establishment of a hospital for the insane at Northampton was one of £100 in 1804. It was given to the Governors of the Northampton Infirmary by a person who desired to be unknown " towards carrying on their design of making a provision for persons disordered in their mind."

From the year 1804 to the year 1836 donations and legacies were received, including £6,000 from the late Northamptonshire Yeomanry Cavalry Fund. In 1836 more than £20,000 was available as a Building Fund, whereupon a Special Committee was appointed and it was decided to erect a Lunatic Asylum.

The first stone of St Andrew's Hospital was laid on a site in the Billing Road by the Right Honourable John Charles, Earl Spencer, attended by the Pomfret Lodge of Free and Accepted Masons and the Mayor and Corporation of Northampton on May 26, 1836.

The President of the Hospital is always the Lord-Lieutenant of the County. The hospital is not endowed, but is supported entirely by the fees of the patients.

Built to accommodate 52 pauper patients and 30 private patients, drawn from all parts of the Kingdom, it opened for the reception of patients on August 1, 1838. The original cost of the land (24¼ acres), the buildings and their equipment amounted to £23,153 1s. 2d.

Both private and pauper patients were received up to July 1, 1876, when the latter were removed to the County Asylum, at Berrywood, near Northampton, and the name " Northampton General Lunatic Asylum " was discontinued, to be replaced by " Saint Andrew's Hospital for Mental Diseases," this being chosen because of the Priory of St. Andrew's of Northampton in mediæval times.

In 1878 the Moulton Park Estate was bought by the Governors. It provides accommodation in villas for 55 patients, and it supplies all milk, meat, fruit and vegetables required for the hospital. In 1900 Bryn-y-Neuadd, Llanfairfechan, with the surrounding estate, was also purchased. Here the beach for more than a mile belongs to the hospital. Its mansion and villas were adapted for the reception of patients likely to benefit by a change to the sea and mountains of North Wales.

Altogether the hospital estates are now over 1,100 acres in extent.

The first Medical Superintendent was Dr. T. S. Pritchard—a pioneer in the humane treatment of the insane. Following him were Dr. P. R. Nesbitt, Dr. Edwin Wing and Dr. J. Bayley. The latter, who was succeeded in 1913 by Dr. Daniel F. Rambaut, since 1924 the respected Registrar of our Association, who has developed the work of his predecessors in a remarkable degree, culminating in the events of October 14, which were symbolical of the immense progress made in clinical psychiatry since the first donation towards the building of the hospital in 1804.

The New Reception Hospital.

The new Recepton Hospital has a separate entrance, and stands in its own gardens and recreation grounds, but within easy reach of the main buildings.

All admissions, whether voluntary or certified, who are deemed recoverable, are to be received there.

The building accommodates 16 patients of each sex. There is accommodation for the sister-in-charge, seven nurses, and seven servants.

The central portion of the building is of two stories, the remainder being of one story. The central hall contains the main staircase to the first floor. On the ground floor are the dining-rooms for the patients and staff, which are grouped round a servery, attached to the kitchens; the dental surgery; the dispensary;

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rooms for X-ray treatment, ultra-violet ray treatment, diathermy, and high-frequency treatment; photographic rooms; rooms for psychotherapy; and a medical library. On the first floor is an operating theatre with anæsthetic and sterilizing rooms adjoining, a bed-lift from the ground floor laboratories for research.

On each side of the hospital there are admission rooms, visiting rooms, clinical rooms, rooms for massage and hydrotherapy, and comfortable rooms where noisy patients can be treated without disturbing others. The dormitories are large, and there are a number of spacious private bedrooms and sitting-rooms. Large verandahs open off the dormitories, and connected with the sitting-rooms are solaria. The wards and rooms are comfortably and tastefully furnished, the sanitary arrangements are excellent.

The clinical rooms.—The equipment of these rooms provides for examinations by bacteriological and biochemical methods, thus enabling the clinician and the pathologist to determine the nature of underlying physical disorders and defects —such work, for example, as the fractional test-meal, examination of the blood, and the collection of samples for cellular and chemical investigation in the laboratory.

Adequate provision is made for detailed examination of the ear, nose, throat and eye, and search for focal sepsis. The initial work of the dental department will be undertaken here.

Particular attention has been paid to case-recording and the system of filing. Provision is made for the work of each special department being carefully noted for purposes of research.

The laboratories.—These are divided into two departments ; one for biochemical work, the other for bacteriology and pathology. The sterilization and preparation rooms are adjacent. The initial investigations carried out in the clinical rooms will be continued in each laboratory, but the two departments will work in close collaboration.

The clinical rooms and laboratories form a compact, up-to-date and elaborately equipped diagnostic clinic and research centre, which together with the special treatment facilities, should be productive of some really good work for the progress of scientific psychiatry.

The hydrotherapy department.—In this department facilities are provided for spa treatment and appliances for sprays, needle baths and Scotch and Aix douches have been installed. Each side has a complete suite of rooms, apart from, but conveniently near to, the private bedrooms and wards, equipped for hydrotherapy and balneology. The main room contains three baths for prolonged immersion and one for electrical treatment, so arranged that a number of patients can receive attention at the same time. Canvas hammocks are provided for the prolonged immersion baths, which can be adjusted to suit the size of the patient. Two smaller apartments are attached, the one as a dressing-room, and the other for massage and manipulative treatment. In another room provision is made for various kinds of hot packs used in conjunction with the baths.

Special care has also been taken in the installation for intestinal lavage on the Plombières system, now considered especially valuable in the treatment of mental cases. To these facilities a Turkish bath department has been added in a separate building.

The electrical department.—This is divided into two main portions. The larger has been equipped with the latest type of X-ray apparatus, consisting of a motor generator and high-tension transformer with rectifier contained in one cabinet, a movable control table, a screening stand and a screening couch, with a Potter-Bucky diaphragm and an adjustable Coolidge tube stand. There is a photographic room and a dark room. The next division is equipped with an artificial sunlight lamp (K.B.B. air cooled atmospheric mercury vapour burner). In addition there is a high-powered diathermy apparatus with a high-frequency attachment, a universal machine for ionization, galvanic and faradic currents, light and cautery.

The dental department.—This occupies a separate room, and is equipped with a hydraulic raising dental chair, a Rathbone control panel, with dynamo supplying heat, light and compressed air, a self-contained X-ray unit, and the usual dental cabinet, nitrous oxide and oxygen gas apparatus.

Electrical equipment was supplied by Messrs. Watson & Sons.

[*Details regarding scientific equipment were kindly supplied by Dr. Rambaut.*]

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The Hospital Committee has been fortunate in its selection of Dr. W. M. Ford-Robertson as Bacteriologist and Pathologist, formerly *interim* Superintendent of the Laboratories of the Scottish Asylums. His services as a clinician will also be a valuable asset. He will have an opportunity of continuing in the footsteps of his father, the late Dr. William Ford-Robertson, a pioneer in that scientific work which is the *raison d'être* of this new building and its elaborate equipment.

The moving spirit in this new venture at Northampton is, of course, Dr. Rambaut, who is a thorough believer in team-work in clinical psychiatry, bacteriology, pathology and biochemistry. Well has he fulfilled his ambition of making provision for all these at St. Andrew's Hospital—an achievement which will enhance the fine reputation for good work the hospital has ever enjoyed.

We have every word of praise for the progressive spirit which has animated the Governors of the hospital in this matter, for there is no question that historically the registered hospitals stand in the same relationship to psychiatry as voluntary general hospitals do to general medicine—a claim which St. Andrew's Hospital, like Royal Bethlem, seems likely to substantiate.

The following additional notes on the structure are supplied by the architect, Sidney F. Harris, F.R.I.B.A.

The dormitories on either side, which are L-shape in plan, contain ten beds each, with a floor space of 139 superficial feet per bed; they contain but a single row of beds, thus avoiding the objection of patients staring at those opposite; they face south and west, with a verandah 12 ft. in width in front. The division between the dormitories and verandahs is of brick piers and esavian glazed partitions, which permits of throwing open to the verandahs practically the whole of the front. Thorough cross-ventilation has been provided in the dormitories by arranging the top of the verandah roofs to finish about 2 ft. below the ceiling of the dormitories and fixing in the wall above the roof opening windows. The ventilation of the back of the dormitories has been provided by forming in the roof steel dormers with fronts to open as required. This method prevents the nuisance of fine snow being blown in, as is so often the case when the method of raising the back portion of the roof above the front portion is adopted.

The height of the front of the roof has been kept low, *viz.*, 6 ft., so as to reduce as far as possible the depth that driving rain could penetrate. A dwarf wall is built along the front for the purpose of breaking the draught along the floor, and preventing ground dust being blown in.

Leading out of the end of each dormitory are two rooms for noisy patients, approached by three cut-off lobbies. Very special precautions were taken in the construction of these rooms to prevent any noise therefrom penetrating to the dormitory or other parts of the building. The walls are lined with celotex—a sound-absorbing material—and finished in plaster. Double windows are provided, glazed with ¼-in. polished plate glass, which are made to open for cleaning purposes, but when the rooms are occupied are secured locked. Hinged shutters are also provided, which, when open, are locked into a recess against the wall, thus preventing all ledges.

The doors, to make them as sound-proof as possible, are constructed with two 1-in. thick flush panel framings, screwed together with ½-in. thickness of celotex in between and the surfaces covered with plywood. The angle formed by the front and side walls is splayed, so that when the door is opened but a little a patient, wherever he may be, can be seen. The warming and ventilation is as follows: A hot-water radiator is placed in the recess formed by the splayed angle. Cold air is admitted from a grating fixed low down in the outside wall and a grating in the inner wall about 7 ft. from the floor to admit the warmed air. An extract flue is formed in the opposite wall with gratings near the floor and ceiling, and in this flue is fixed an electric exhaust fan for use when the natural ventilation is insufficient.

Leading from each of the two day-rooms is the solarium, an octagonal building constructed of glass and steel erected on a dwarf brick wall, 3 ft. high; so that this room may be used throughout the year hot-water pipes and radiators are provided for warming it. The single rooms are 12 ft. by 11 ft. by 10 ft. high. When the shutters are in use air is brought in through the window, and the stout brass wire gratings of 5-mesh, which are fixed in the upper panels of the shutters. Gratings connected by tubes to a large extraction ventilator fixed on the roof

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are fixed in the ceilings. The floors are finished with oak blocks, wax-polished. To reduce noise as much as possible the corridor outside these rooms is paved with compressed cork laid in squares on a cement screeded bed.

The walls and floors of the sanitary blocks are finished in terrazzo, except the w.c.'s where the wall are finished with Shepwood white glazed tiles. The partitions, which extend to within 6 in. of the floor, are formed with Shepwood white glazed partition bricks. Special construction had to be adopted in these partitions, as the usaul cross-bar over the doors had to be omitted.

The room for soiled linen has an external as well as an internal door.

All the w.c.'s are of the corbel type, so that the floor, being unobstructed, can easily be kept clean; they are fitted with low-down cisterns, which are operated by pressing a non-projecting button.

The baths discharge direct into an open channel in the floor.

In the lavatory on the female side is an electric hair-drying apparatus.

In the hydrotherapy department is a steam-heated towel store. To guarantee efficient ventilation large dormer windows have been formed on the four sides of the roof. The walls and floors of this department are finished in marble terrazzo.

The pack room is fitted with a live steam jet, to enable water of a very high temperature to be obtained, and there is also a steam-heated cupboard for wraps, etc., and a ringer is fitted next the teak sink.

The cooking apparatus in the kitchen consists of an electric roasting and baking oven, an electric pastry oven, an electric toasting grill, a gas-heated grill, a gas-heated hot plate, with ring burners, a steam hot closet with Bain Marie, a steam-heated water-boiler, a large table and a small lavatory basin. In the general scullery there are an 18-in. diameter steam-jacketed copper, a similar copper, but with a loose aluminium liner for making porridge, warming milk, etc., a 15-in. steam-heated copper lined with aluminium for jam, etc., a 4-compartment steamer for potatoes, fish, meat, etc. In the vegetable scullery there is an electric driven potato-paring machine. In addition to the hot- and cold-water service to the washing-up sinks live steam jets are provided, so that the temperature of the water can be maintained. The walls and floors of the kitchen and sculleries are finished in marble terrazzo. In the larder, in addition to the ventilated meat safe at one end a kelvinator is provided. The walls of the larder, cooks' store, milk store, pantry and pastry room are lined with white glazed tiles. In the yard adjoining the scullery is an open shed, in which is a galvanized iron tank with hot and cold water and a live steam jet for the thorough washing and sterilization of the sanitary bins.

On the first floor, over the north end of the central wing on the north side, are arranged the bedrooms for the servants.

The operating theatre is a room 16 ft. 6 in. by 14 ft. 6 in.; it has a north light, and contains no fittings except the operation table and a plate-glass shelf carrying large glass jars for antiseptic and saline solutions. The special electric light fittings suspended over the operating table were supplied by Mr. Chas. F. Thackray, Park Street, Leeds. Wall plugs are also provided for local lighting. The walls are lined with marble terrazzo of a very light grey colour, and the floor is formed of similar material. On the left of the operating room and communicating therewith is the anæsthetic room, which is ventilated in the same way as the operating theatre, and contains an anæsthetist's table and a surgical instrument cabinet.

On the right is the sterilizing room, which contains the following fittings: Two surgeons' lavatory basins, with elbow operated mixing tap, a glazed sink, small marble slab, two water sterilizers of the pressure type, one being fitted with a water-cooling coil, so as to reduce the temperature of the recently sterilized water as quickly as possible; one bowl sterilizer and one large instrument sterilizer. All waste pipes discharge into an open channel in the floor, the channel being connected to an open head outside by means of a flap valve. The walls and floors of these rooms are treated in a similar way to those in the operating theatre.

Adjoining the anæsthetic room is the surgeons' changing room, in which there is a lavatory basin.

In the bedrooms provided for the nurses and staff are built-in wardrobes, and lavatory basins, with hot and cold water, and the rooms are warmed by hot-water radiators.

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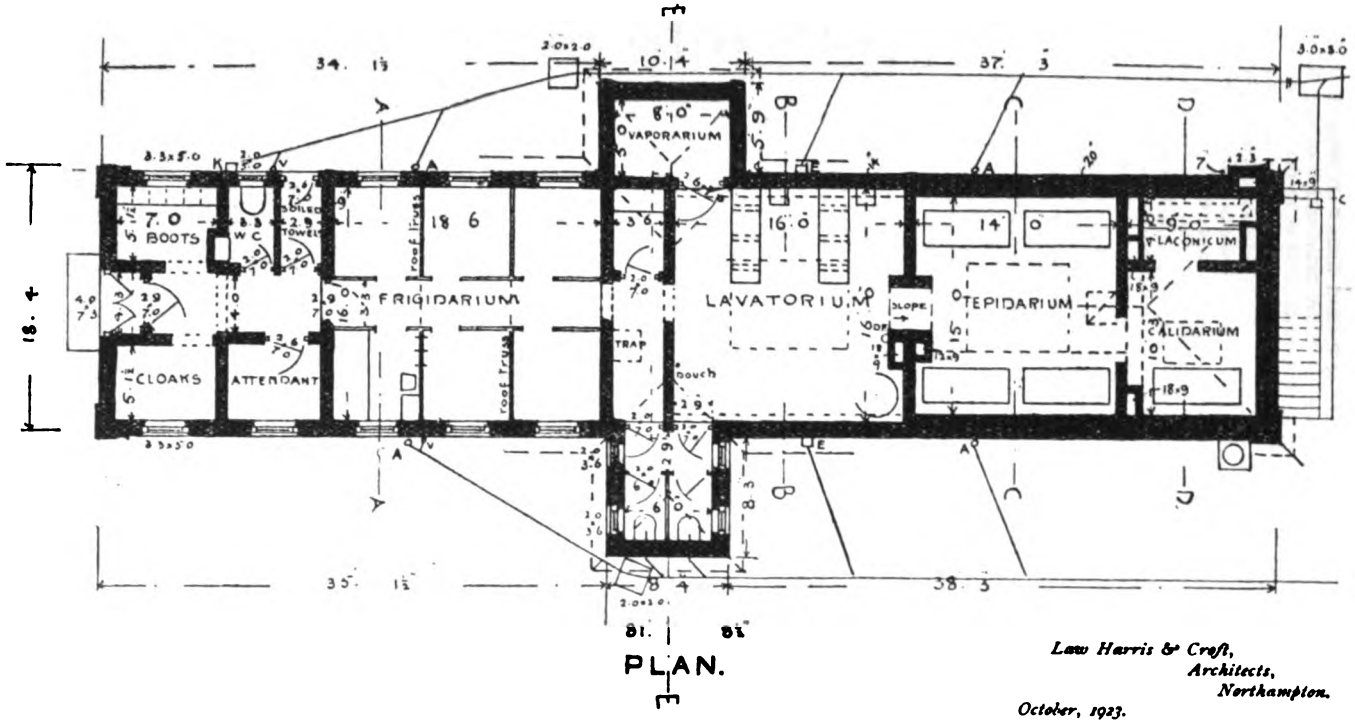
ST. ANDREW'S HOSPITAL FOR MENTAL DISEASES, NORTHAMPTON. NEW RECEPTION HOSPITAL. TURKISH BATH.



Law Harris & Croft,
Architects,
Northampton.

October, 1923.

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Sash windows, sliding up and down, in cased frames are used throughout, and those in the portion occupied by patients are fitted with a locking device, which prevents the windows being opened more than 6½ in. at the top and 6 in. at the bottom, but permits them to be opened to the full extent by the turning of a key.

All internal angles of floors, walls and ceilings are rounded to a 1½-in. radius.

The upper floors are constructed with hollow blocks reinforced with steel wire and cement, and are fire-proof and practically sound-proof.

The electric light wires are all in steel screwed tubes. The wires were drawn in *after* the tubing was fixed, so that there will be no difficulty in renewing the wires if required without disturbing the walls and floors in any way.

Electric alarm pushes are provided in the dormitories and in the hydrotherapy department, the bell being arranged to ring until it is shut off at the bell.

So that the temperature within the building may be constant, the whole of the roofs are covered below the tiles with celotex, which is a very efficient non-conducting material.

Heating and water supply.—A calorifier chamber is provided under the centre portion of the building. A large Lancashire boiler was added to the existing two boilers at the central power station of the main hospital, which is connected to the calorifier chamber by an underground high-pressure steam main. At the calorifier the steam pressure is reduced for cooking, sterilizing, heating and other purposes.

Separate supply tanks for the hot- and cold-water systems are situated in the roof space. The water to be heated passes through a water-softening plant adjoining the calorifier chamber to large steam-heated and automatically regulated storage calorifiers of 1,000 gallons capacity. Electrically-driven centrifugal pumps with automatic by-pass are fitted in the return mains to the calorifiers. Particular care was taken to ensure the immediate supply of a large reserve of hot water to the various special baths, etc.

With the exception of the single rooms and the operating theatre, the heating is by low-pressure hot water with radiators. The water is heated and pumped in a similar manner to that for the domestic hot-water supply. The two plants are entirely separate, however, and the calorifiers and pumps in each are in duplicate. Subways are formed underneath the corridors throughout the whole building, and the distributing mains are fixed almost entirely in these and in the roof spaces.

The operating theatre and anæsthetic room are fitted with steam-heated radiators, behind which are special gauze air-filter screens. An electrically driven fan extracts air from both rooms. Separate extraction fans are also provided in the isolated spurs and the X-ray room.

The single rooms entered from the main corridor are warmed by an invisible method, which is a modern adaptation of the Roman hypocaust. There is an air space under the whole floor of each room, connected to flow and return ducts in the subways. Air is forced through the system of ducts by an electrically-driven centrifugal fan connected to a steam heater. None of this air enters the rooms, but the floor forms a large surface at a very low temperature, emitting heat in radiant form. The temperature in each floor is regulated by an air valve in the floor. Thus in these rooms there is no means of heating visible or dangerous to the patient.

Turkish bath.—The Turkish bath is a self-contained building near to, but not adjoining the reception hospital; it provides accommodation for six persons, and contains the frigidarium, lavatorium, tepidarium, calidarium, laconicum and vaporarium; and adjoining the entrance is a room for changing boots, a cloak-room, lavatory, attendants' room, and room for soiled linen. The internal walls and floors are lined with marble terrazzo. For conservating the heat inside, the external walls of the hot rooms are built of two 9-in. walls with a 2-in. space between, this space being filled with soot. The heating chamber is placed under the east end of the building and is approached by outside steps.

The rooms are heated by a warm air stove, over which fresh air is blown by an electrically-driven propeller fan. The flue from the stove passes through the bench seat of the laconicum. Fresh hot air is taken in separate ducts to each room, from which separate extraction ducts are also provided. With this arrangement foul air does not pass from room to room, as is generally the case, and separate regulation of the temperature in each room is also made possible.

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Steam for the Russian bath, etc., hot water for heating and domestic hot water are supplied from the reception hospital.

The whole of the sanitary fittings were supplied by Messrs. Shanks & Co., the cooking apparatus and sterilizing plant by Messrs. James Slater & Co., and the heating plant by Messrs. G. N. Haden & Sons, who designed it in co-operation with the architect.

Opening Ceremony.

The opening ceremony took place on the terraces of the new hospital in the presence of a large and distinguished company, including representatives of town and county and the medical profession. Among those present were the Rt. Hon. Viscount Cave, *G.C.M.G.* (the Lord Chancellor), Sir Arthur de Capell Brooke, Bart., *D.L.*, *J.P.* (Chairman of Northamptonshire County Council), Sir Charles V. Gunning, Bart., *C.B.*, *C.M.G.* (Vice-Chairman), the Marquess of Exeter, *C.M.G.*, *C.B.E.*, Lord Lieutenant of Northamptonshire (President of the Hospital), Mr. Christopher Smyth, *M.A.*, *D.L.*, *J.P.* (Chairman), the Rt. Rev. Claude Blagden, *D.D.* (Lord Bishop of Peterborough), Lord Sandhurst, Sir Robert Armstrong-Jones, *C.B.E.*, M.D., F.R.C.P., Nathan Raw, *C.M.G.*, M.D., F.R.C.S. (Lord Chancellor's Visitors), Sir Frederick Willis, *K.B.E.*, *C.B.* (Chairman of the Board of Control), Lord Vaux of Harrowden, Mr. Reginald B. Loder, *M.A.*, *J.P.*, Mr. F. H. Thornton, *M.A.*, *C.A.*, *J.P.*, Major Leslie Renton, *J.P.*, Sir Frederick V. L. Robinson, Bart., *J.P.*, Mr. A. H. Sartoris, *J.P.*, Major A. H. Thurburn, *J.P.*, Mr. H. M. Stockdale, *J.P.*, General H. E. Stockdale, *C.B.*, *C.M.G.*, *D.S.O.*, C. Hubert Bond, *C.B.E.*, D.Sc., M.D., F.R.C.P. (Commissioner of the Board of Control), Dr. Daniel F. Rambaut, *M.A.* (Medical Superintendent), Major J. A. C. Wetherell, *O.B.E.*, Mr. S. Schilizzi, *C.A.*, *J.P.*, Major C. J. Maunsell, *J.P.*, Hamilton Marr, M.D., F.R.F.P.S. (Commissioner of the General Board of Control for Scotland, and President of the Royal Medico-Psychological Association), Col. J. R. Lord, *C.B.E.*, M.D., F.R.C.P.E. (ex-President of the Royal Medico-Psychological Association), Prof. G. M. Robertson, M.D., F.R.C.P.E., and Dr. J. G. Soutar.

The Marquess of Exeter, President of the hospital, opened the proceedings by asking Mr. Christopher Smyth to take the chair out of compliment to his long services as Chairman of the Committee of Management.

Mr. Smyth said: "We are all heartily thankful to see the completion of this great venture. For many years the governors have had this new hospital under consideration." After sketching the steps taken which led up to the events of that day (particularly the part played by Dr. Rambaut), he concluded by saying:

"On June 27, 1924, the foundation stone was laid, and the building was completed in the summer of 1927. It has been equipped with all the most modern scientific apparatus to try and bring about a cure in the early stages of mental illness. We trust it may be the means by God's blessing to increase the large number of cures which Dr. Rambaut and his staff have already been able to effect. Up to this time we have been able to send out 50% of the admissions, and we have every belief that the percentage will be greatly increased when this new hospital enters upon its full working."

Sir Frederick Willis said: "It is interesting to learn from the history of the hospital that there are so many descendants of the first Board of Governors ninety years ago on the present list.

"St. Andrew's has a great history, and many thousands of persons who have suffered from mental disorder owe to it a deep debt of gratitude for the care and treatment which they have received.

"Fortunately, the modern view of insanity differs profoundly from the views of the past, when mental disorder was looked upon as something supernatural and beyond human aid. Nowadays it is regarded as an illness like any other illness, and it is more and more realized that for the treatment of it many methods of modern medical science should be brought into use. The scientific atmosphere is pervading our mental hospitals to-day as it never did before, and this new hospital is fully equipped for the treatment of patients according to the most modern methods which science has taught us. This reception hospital provides every facility for the full and careful study and treatment of patients on admission, and many of them will pass from the reception hospital to convalescent villas and so back to the community without having come into contact with the

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chronic insane. This will do much to relieve the anxieties of both patients and their friends. It should have also the effect of inducing more sufferers to seek treatment at an earlier stage.

"I am particularly glad to observe that research will have a prominent place in your work. Although much has been learned about insanity, there is still much more to learn, and in the absence of fuller knowledge it is still difficult to prevent insanity or to cure it in a great many cases.

"The public health of the country has immensely improved during the last fifty years. The same cannot be said of public mental health, notwithstanding the great improvements which have been made in the treatment of the insane. The recovery-rate shows no material improvement and the prevention of insanity has made little or no headway. There is obviously a great field of research to be worked.

"One thing I am sure the Governors will realize, and that is that a well-equipped scientific institution of this kind must, for the successful prosecution of its objects, be provided with competent scientific workers. You are fortunate in possessing a distinguished and progressive Medical Superintendent, but Dr. Rambaut would be the first to admit that he cannot cope unaided with all the scientific work which is to be undertaken here.

"My hope is that work such as you are doing and proposing to do in Northampton will lead to a big diminution in the numbers of those patients whose illness goes on until they are placed in that pathetic class—the chronic insane.

"It is impossible to over-estimate the importance of well-equipped admission units in every institution devoted to the treatment of mental disorders, and I can only hope that other registered hospitals will follow the lead given by St. Andrew's.

"On behalf of myself and my department I offer you our heartiest congratulations and best wishes for the future of this hospital."

The MARQUESS OF EXETER then invited the Chancellor to open the hospital.

The LORD CHANCELLOR: "I hold it a great privilege to have been asked, presumably because of the relation in which I stand, by virtue of my office, to all persons of unsound mind in this country, to open this reception hospital. St. Andrew's Hospital bears a very high reputation earned for it by a succession of able medical superintendents, culminating in the distinguished Superintendent (Dr. Rambaut) who now has charge. A new view is taken of mental patients to-day. In old times it was the custom, for administrative purposes, to class all persons of unsound mind together, possibly the acute or violent cases in one group, and the quiet cases in another—that was, to class them according to behaviour, but without regard to the question of curability, or whether the ailment was temporary or chronic.

"To-day, when the number of cases to be treated had become very large, mainly because of the improvement in our system, it was recognized as essential to keep recent and presumably recoverable cases away from contact with those whose cure had been found beyond hope, to put them, so to speak, in a special atmosphere, an atmosphere of hope, and in a place where every facility was found for examination and for curative treatment.

"This system has many advantages. Among others it encourages persons who know—for many of them do know, that they stand in danger of mental aberration—to submit to a voluntary course of treatment without the distasteful process of certification under the law. That is a good thing, and I have every hope that the system of voluntary submission to treatment may be extended before long to the other hospitals, the county hospitals, by legislation on the lines of the Royal Commission, whose report I know to be under active consideration."

The Lord Chancellor expressed pleasure that there was provision for continued and skilled research.

"With all our growth of knowledge or supposed growth of knowledge," he said, "we know very little. We do not know nearly enough about the cause of disease, and above all the cause of mental disease, and a place where every case is scientifically examined and considered, where every examination is registered, where every cure is analyzed and entered in the records, where a scientific study of these terrible diseases is systematically pursued, is an institution from which the whole country may hope to derive benefit."

"The objects of the new hospital were worthy of their goodwill and continued support. If, by the aid of such a foundation, even a few patients were restored

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to sanity and normal life, the benefit to them was, of course, beyond price, but he hoped that the fine example of Northampton would be more generally followed."

Concluding, the Lord Chancellor offered cordial congratulations on the work so well begun and declared the building open, with all good wishes for success.

The BISHOP then dedicated the hospital "in the faith of Jesus Christ, the Divine Healer, to the glory of God and the benefit of His people."

The CHAIRMAN, in proposing a vote of thanks to the Lord Chancellor, said that it had been a great venture on the part of the Governors, but it was a joy to them to know that their labours had been so successful, and to hear such encouraging words from his lordship.

Sir CHARLES V. GUNNING, in seconding, said that the sub-committee over which he had presided kept before them, not only the need for up-to-date equipment, but they also tried to make the hospital as comfortable and home-like as possible.

The vote was heartily accorded.

The company then had tea in the theatre and lounges of the main building.

THE NEW TREATMENT BLOCK AT RUBERY HILL MENTAL HOSPITAL.

WE have visited recently an interesting and useful addition to a mental hospital which, though not as old as some, was behind the times structurally as to provisions for modern lines of treatment. Unlike the new admission hospital at St. Andrew's Hospital, an additional block was needed for special treatment only, and not for the reception of new cases or for bio-chemical, bacteriological or pathological work. In this latter respect the hospital is amply provided, for here are situated the laboratories of the Joint Board of Research for Mental Diseases of the City and University of Birmingham, where excellent work is being done as reported in our last volume (*vide* p. 503).

This new treatment block has been in use since September, 1926, and Dr. T. C. Graves, the Medical Superintendent, who, with Mr. D. E. Turner, his manager of works, drew up the plan, expresses himself as pleased with the fruit of their joint labours. We can commend this additional building as convenient, economical, and unostentatiously serving entirely practical purposes.

Thus, though each room has a principal purpose as marked on the plan, it can also be put to other uses. For instance Room A is used for all operations, including dental operations, performed under general anæsthesia. B, when not used as an anæsthetic room, is a waiting- and dressing-room, while C, ordinarily for ultra-violet ray therapy, serves also as a recovery room after operations, and as an ear, nose and throat and dental department. In D is kept the stock of instruments, and Room F is used for both Plombière treatment and continuous colonic irrigation.

The largest room is 18 ft. by 14 ft. The building, all ground floor, is of brick, and the floors of terrazzo—the latter by the Venetian Flooring Co., of Birmingham. The extract ventilators are of the air pump type manufactured by Robert Boyle & Son, of Holborn Viaduct, London, E.C. The locks and fittings of new type and attractive appearance (white metal) are by Gibbons, and the water blender, for the continuous bath, was supplied by Royles, of Manchester.

The hospital works department designed and made all the cabinets, cupboards, sterilizers, trollies, stretchers, Plombière table, etc.

The building and corridor of approach were erected at a cost of £3,036.

OCCUPATIONAL THERAPY.

AMONG many wonderful exhibits of handicraft in mental institutions, displayed during the Annual Meeting of the Association at Bangour Village, was a unique model of a house constructed by patients in Aberdeen Royal Mental Hospital. A description of this by Dr. Dods Brown may be of interest to many of our readers.

The model, which measures 3 ft. 2 in. by 2 ft. 2 in. by 1 ft. 8 in., was constructed by forty male and female patients. It is a two-storied villa. On the ground floor are the dining-room, sitting-room, kitchen and bedroom; and on the upper floor are the bathroom, maid's room, studio and box-room. It is

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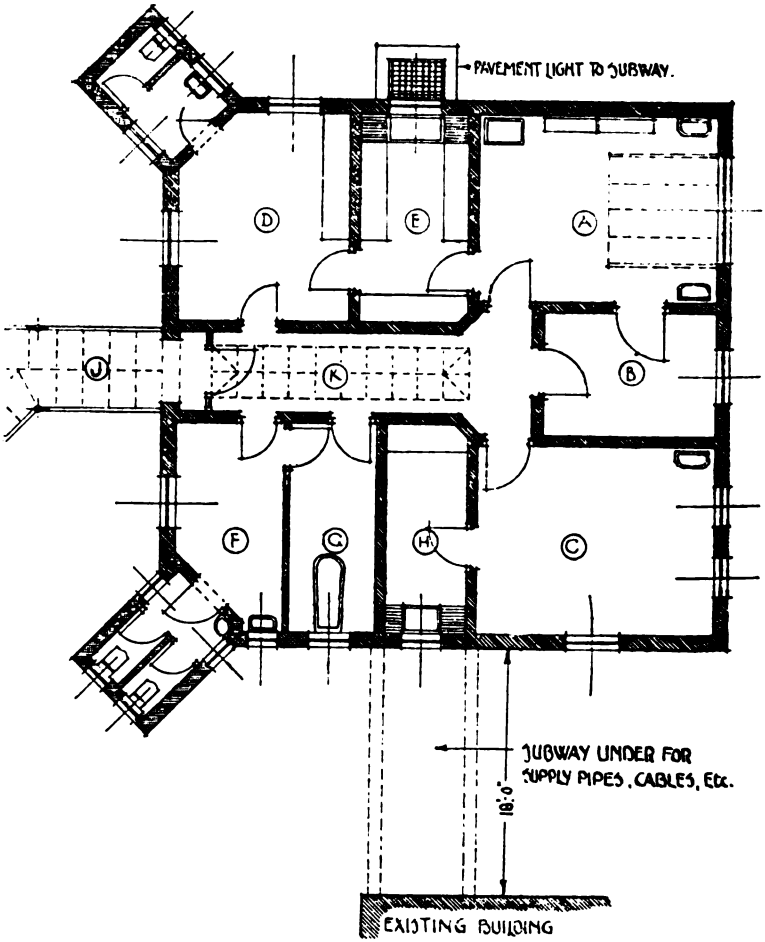
RUBERY HILL MENTAL HOSPITAL—SPECIAL TREATMENT BLOCK.



Scale—12 feet (approx.) to the inch.

A. Operation. B. Anæsthetic. C. Electrical. D. Surgeons. E. Sterilizing. F. Plombière. G. Hydrotherapy. H. Dark and Store. J. Approach corridor. K. Entrance hall.

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completely furnished throughout, and is tastefully decorated. The dining-room is oak-panelled, and the chairs in it are upholstered in leather. On the walls are plaques and willow-pattern plates. The sitting-room furniture is covered in brocade. The piano, made of paduck wood, has a hinged lid and music rest; the keyboard consists of separately cut notes. On two sides of this room are shelves containing 168 suede-covered books with gilt edges. It contains also a nest of tables, a standard lamp and pictures. The latter are all copies of exhibits in the Royal Academy. The furniture of the bedroom is made of rosewood. This apartment contains a hand-woven carpet, twin beds, a wardrobe, a dressing-table, with hinged mirrors, rush-seated chairs, electric radiator, etc. The kitchen floor is covered with stencilled linoleum, and in this room are found a Dutch dresser, a roll-top sink, table and chairs. On the range are pots and pans. In the bathroom, the floor of which is tiled, is a bath and washhand basin with taps, a cork-seated stool, etc. All the rooms, the entrance hall and staircase are lit by electricity, and each lamp and radiator has its own switch. The house, furniture, etc., solely the work of patients, it took four months to complete.

THE NATIONAL COUNCIL FOR MENTAL HYGIENE.

Dame Mary Scharleib, *D.B.E.*, M.D., M.S., F.R.C.S., gave an address at the Fifth Annual Meeting of the National Council for Mental Hygiene, which was held on December 9, 1927, in the Hall of the College of Nursing, London.

[*An Abstract.*]

She said: I have long felt that the study of mental hygiene is badly neglected, not only by the public, which is excusable, but by our own beloved profession, which is by far less excusable. The truth is that the study of mental hygiene is not at all a welcome subject. We have schools for the tubercular, for the ordinary physically defective and for the mentally defective children. Now, if anyone were invited to go and see any hospital or school for children who had some physical ailment or deformity, blindness, deafness, they would gladly go. They would say they were so sorry for these poor little children, and they were so sorry for their parents and their families, but if you were to ask anyone to go to a mental hospital or a school for mentally deficient children they would say, "Oh, I would rather not. That is just not the thing that I would like to do. I do not understand anything about it." Well, that is very true; they do not understand anything about it; but I assure you—indeed most of you know this—that the prevalence of mental deficiency is one of the vital questions for the Empire at the present day. I have been involved once before in a most unpopular cause, and that was the cause which gave rise to the Royal Commission on Venereal Disease presided over by Lord Sydenham from 1913 to 1916. We worked hard for those three years, and at the end Lord Sydenham said to us, "Your work here on this subject is done. Your work outside is now going to begin. Those of you who can speak must speak. Those of you who can write must write. You must all use your influence, and you must all talk about it, until the people understand that the disease is preventable, and is to be prevented; that it is curable and is to be cured. I engage you all to go out and be missionaries in this cause." Well, I think we did as our Chairman asked. A very large number on that Commission were doctors, and I am sure that we all most faithfully preached on this subject, unpleasant as it was. You know the result; you know how wonderfully the knowledge of the public on this subject has improved.

Now, it is exactly the same with regard to mental hygiene. We have got to make people see that there is nothing in the subject so offensive, so repellent, or so difficult as to justify the public in paying no attention to it. I am an old woman, and I remember well the mid-Victorian days, the days of the Daisy Chain, the days of *Uncle Tom's Cabin* and so on, and I remember how the hearts of all my old friends, with the children and the young people of these days, went out towards the attractive hero and the delicate heroine, the people who were always breaking blood-vessels and making a mess of one sort or another. How many mid-Victorian novels owed their charm and interest to a lame, blind, or consumptive hero? Now would a book have sold whose chief interest centred round a mental defective? The mother who has a child afflicted with

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deficiency of a leg, an eye, an ear, or a nose, or any trouble of that sort, is assured of any amount of sympathy and support. If she is a poor woman people will fall over themselves to send the child away for better air, to an open-air school, or to some other suitable place. These things ought to be done certainly. Yes, but we ought not to leave the mentally afflicted child out from our practical sympathy.

The consequence of our gross neglect of mental hygiene is that many young people drift over the border-line who might be saved. Many a child who might have been trained to do something useful is left until he sinks from being a case of feeble-mindedness into real imbecility. Of course we know the scientific definition that idiots, imbeciles and the feeble-minded are those people who have been afflicted from birth or from early years. But it is wonderful how much can be done for the feeble-minded people.

Some little time ago, having in mind to write a small book on the subject, I visited various schools for the feeble-minded, and I was very much struck with the fine work that they were able to do. Of course these feeble-minded people would never be able of themselves to set to work; they would not be able to procure the wood for their wood-carving; they would not be able to get the material to cut out the frames that they made; they would not be able to initiate patterns for their crochet and other things, but the skill and dexterity with which they were able to execute wood-carving, their iron-work, bookmaking, cobbling, needlework, embroidery, knitting and crochet is wonderful.

The thing is that nearly all those we call feeble-minded, in contra-distinction to the imbecile and the idiot, have some gift that can be cultivated. In the very early months and years of their life no doubt they are best at home if their mothers or other members of the family are willing to take the necessary trouble to teach them how to use their fingers, to teach them how to wash, dress and feed themselves and the elementary rules of personal cleanliness and good behaviour. But when school days come the ordinary school is not the best place for the feeble-minded. I not infrequently inspect schools, and I can pick out the children who are manifestly doing no good whatever. They are sitting there occupying a place, but the instruction does not profit them at all. Three great injustices are being perpetrated.

The first person injured by the presence of these children is the teacher. Teachers know that they are responsible for the teaching they impart, for its being the best of its kind, but the teacher who has in his class three or four mentally deficient children comes to acquiesce quite comfortably in there being on the benches before him children who are not taking in any of the instruction. That is a moral injustice to the teacher. Then it is bad for the normal children; they learn to afflict and torment these deficient children, which is wrong. As to the mentally defective children, the injustice to them is the worst of all, because it is only during the early years that the faculties of mind they do possess can be cultivated and something made of them. But in the special schools and institutions every faculty that the children do possess is carefully cultivated and so something is saved out of the wreck, so that the children are eventually able to contribute towards their own support even although they may not become fully self-supporting.

The National Council of Mental Hygiene, whose cause I plead, was founded only four years ago. So it is still in its infancy, but it is a very vigorous infant. It would be still more vigorous if it could get more nourishment. You will see, I am sure, that it does get the nourishment that is needed. You are believers, and I need not implore you to be converted, but what are you to do? I have never heard of a really good institution of any kind that was not imbued with the proselytising and the propaganda spirit, and that is what you must cultivate. You must do what the members of Lord Sydenham's Commission did with their friends, their relations, their patients and the public in general. You must make people see that there is nothing more dreadful, nothing more wicked, nothing more distressing in not being able to add two and two and say that it is four than it is to be deficient in any other way. You must rid people of the popular fallacy that mental deficiency is a disgrace. The mentally deficient are born so, and they are far more to be pitied than those who are blind or deaf, and yet they do not get anything like the help or the sympathy which those do who have only physical defects.

I want for the benefit of those who are not members of the Council to tell you something of its aims. The Council is anxious to bring mental diseases into the fold of general diseases, and one way of doing it is to secure the affiliation of mental

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hospitals to general hospitals. That has already been done in several instances. (Cheers.) I hope it will be done more and more. I was talking the other day with the distinguished President of the hospital in which I have for many years been much interested and telling him of a proposal of this kind, and he said, "What an admirable idea; I hope that my hospital will soon be affiliated to one of the mental hospitals near London."

Another aim of the Council is to institute research in regard to all types of mental deficiency. A deeply interesting type is the Moral Imbecile, who often seems to have nothing amiss with his intellect. But it is from the ranks of the Moral Imbecile that many murderers, the forgers, the embezzlers and clever criminals are drawn. We want to know a great deal about the numbers of the cases that exist in order that proper accommodation should be provided for them and that something should be done to reduce the number and to prevent the propagation of such sufferers.

Then there is the crying need for facilities for the early treatment of mental disorders. There is a large number of people who might be saved from insanity if they were treated early enough. Early treatment for diphtheria—certainly, within twenty-four hours. Early treatment for tuberculosis—yes, as soon as desired. Early treatment for mental trouble—well, not until it is so bad that it cannot be concealed is at present the rule.

Another thing at which the Council aims is the administration of mental hospitals—much too large a subject for us to talk about to-night, but these hospitals need reform from time to time just as other hospitals do. And then there is the provision for the after-care of mental cases. Just as not infrequently patients leave a general hospital after an operation or an illness cured, so patients are discharged from a mental hospital as cured, *i. e.*, cured, but with the same tendency remaining. The same thing that caused trouble before may cause trouble again, and unless after-care be provided they go home to the very same aggravating set of circumstances that sent them wrong before. This ought never to happen, and to stimulate after-care work is one of the objects of this infant Society.

Another thing in which the Council is much interested is the Registration of Mental Homes. We want to know where these places are; we want to know who is responsible for the patients, and what is done for them. Simply to house patients, give them food, warmth and comfortable beds is not enough.

One point more, and that is the education of the medical profession in this branch of medicine, and especially the education of medical students. The medical students, it is quite true, have plenty to do, but they need more instruction in mental hygiene. If the clinical teachers knew something of mental science and mental disabilities and applied it to their ordinary cases, we should soon find the students taking an interest in the mental side of patients too.

Dame Mary concluded her speech with an eloquent appeal for funds to aid the National Council in its great mission.

NINTH INTERNATIONAL CONGRESS OF PSYCHOLOGY.

The Ninth International Congress of Psychology will be held at Yale University in New Haven, Connecticut, U.S.A., probably in August or September, 1929.

The officers of the Congress are as follows: President, J. McKeen Cattell, of New York; Vice-President, James R. Angell, of Yale University; Secretary, Edwin G. Boring, of Harvard University; Treasurer, R. S. Woodworth, of Columbia University; Foreign Secretary, Herbert S. Langfeld, of Princeton University; Executive Secretary, Walter S. Hunter, of Clark University; Chairman of the Programme Committee, Raymond Dodge, of Yale University; Chairman of the Committee on Arrangements, R. P. Angier, of Yale University.

This is the first meeting of the Congress in America. The previous meetings have been as follows; Paris, 1889; London, 1892; Munich, 1896; Paris, 1900; Rome, 1905; Geneva, 1909; Oxford, 1923; Groningen, 1926. It is expected that the Congress in the United States will be truly international in character. The Americans hope that the appointment of some foreigners for lectures and

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lectureships can be arranged near the time of the Congress, so that foreign attendance can be increased and international solidarity within psychology furthered still more. Most appointments of this kind at American universities would have to apply only to psychologists who speak English.

THE ASSOCIATION OF CLERKS AND STEWARDS OF MENTAL HOSPITALS.

Test Examinations.

It will interest those members of our Association who are responsible for the administration of mental institutions to know that the Association of Clerks and Stewards of Mental Hospitals has recently instituted a scheme of test examinations for a diploma of efficiency in the subjects detailed in a syllabus. The examinations are open to members only.

The scheme has found favour with the Board of Control (England and Wales). Its objects, to improve and standardize the training of assistants in the clerks' and stewards' departments and afford some evidence of their fitness for promotion, are altogether praiseworthy, but the scheme will need to stand the test of experience before any announcement regarding its effectiveness can be made. At this stage we can only welcome it as a step in the right direction and express a hope that it will prove successful.

The examinations, which will be held annually in February, are: (*a*) Preliminary, covering the duties of assistant clerks; (*b*) Preliminary, covering the duties of assistant stewards; (*c*) Final, covering the duties of clerks and stewards.

Candidates for the preliminary examination must not be less than 21 years of age at the date of examination and have had at least three years' practical clerical experience in the office or stores of a mental hospital.

Candidates for the Final Examination must have had at least five years' service and (*a*) must have passed both the preliminary examinations, or (*b*) have held the office of a principal assistant clerk and Steward for a period of at least two years, or (*c*) where the offices of clerk and steward of the mental hospital are separate, have served as a principal assistant in either the clerk's or steward's department for a period of at least two years.

Candidates may take both the preliminary examinations at one sitting, the duplicate subjects in such case to be omitted.

Examination centres will be selected to meet as far as possible the convenience of the candidates.

The fees for the examinations are: Preliminary Examinations 15s. each; if both taken at one sitting, joint fee £1 1s. Final Examination, £1 1s.

Candidates entering more than once for any examination to be charged half fee for subsequent examinations of the same degree.

The Board of Examiners (eight in number) are appointed yearly by the Executive Committee, and members act as examiners in the subjects allotted to them by the Board. Examination papers are to be approved by the Board in order to ensure the practical nature of the questions and to prevent matters of purely local practice being included. Papers for each examination are three in number and two hours are allowed each. 60% of total marks on each paper secures a pass.

Candidates who have passed the Intermediate or Final Examination of the Chartered Institute of Secretaries, Incorporated Secretaries' Association or other recognized Institute are exempt from taking the preliminary examinations.

Syllabus.

A. *Preliminary Examination: Assistant Clerks.*

Lunacy Law and Practice; Mental Hospitals Accountancy; Asylums Officers' Superannuation Act, 1909; Wages Books and the Payment of Wages; General Office Routine.

Optional Subjects (one subject to be chosen by candidate): (*a*) General Knowledge; (*b*) Commercial Arithmetic; (*c*) Shorthand and Typewriting.

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B. Preliminary Examination: Assistant Stewards.

Stores Accounts; Dietaries; Inspection of Foods, Clothing and Bedding Materials and other Stores; Allied Departments; General Stores Routine.

Optional Subjects (one subject to be chosen by candidate): (*a*) General Knowledge; (*b*) Business Correspondence; (*c*) Commercial Arithmetic.

c. *Final Examination.*

Lunacy Law and Practice; Office and Stores Accountancy; Dietaries; Inspection of Foods, Clothing and Bedding Materials, and other Stores; Duties of Clerk to Visitors; General Routine Duties; Administration and Supervision of all Departments except Medical and Nursing, including a knowledge of duties of staff engaged therein, and checking of books and amount of stock.

Further particulars can be obtained on application to the Hon. Secretary, Association of Clerks and Stewards of Mental Hospitals, St. Audry's Hospital, Melton, Suffolk.

THE GENERAL NURSING COUNCIL FOR ENGLAND AND WALES.

MEMBERS FOR 1928.

Elected by Registered Nurses.

Alsop, Miss H. A., St. Mary Abbot's Hospital, Kensington, W. 8.
Blackman, Edwin R., Esq., 17, Denton Terrace, Bexley, Kent.
Bremner, Miss Geraldine, 63, Wimpole Street, W. 1.
Brown, Miss Jean, Claybury Mental Hospital, Woodford Bridge.
Bushby, Miss A. M., 72, Queen Alexandra Mansions, Judd Street, W.C.
Clark, Miss L. S., R.R.C., Whipps Cross Hospital, Leytonstone, E. 11.
Cowlin, Miss Gertrude, College of Nursing, Henrietta Street, W. 1.
Cox-Davies, Miss R. A., C.B.E., R.R.C., 2, Grenville Street, Brunswick Square, W.C.
Gullan, Miss M. A., St. Thomas's Hospital, S.E. 1.
Hogg, Miss Margaret, C.B.E., Marcom, King's Avenue, Eastbourne.
Lloyd-Still, Miss A. J., C.B.E., R.R.C., St. Thomas's Hospital, S.E.
Meadows, Miss Emily, 29, Belmont Road, Ilford, Essex.
Musson, Miss E. M., *C.B.E.*, R.R.C., Fairholme, Pevensey Bay, Sussex.
Sparshott, Miss M. E., *C.B.E.*, R.R.C., Royal Infirmary, Manchester.
Stratton, Fredk. W., Esq., 91, Broadfield Road, Catford, S.E. 6.
Villiers, Miss S. A., 4, Green Street, Stevenage, Herts.

Appointed by the Ministry of Health.

Barrett, Lady, *C.B.E.*, M.D., 31, Devonshire Place, W. 1.
Buchan, J. J., Esq., M.D., D.P.H., Medical Officer of Health, Bradford.
Cronshaw, The Rev. G. B., The Queen's College, Oxford.
Thomson, Dr. F., Metropolitan Asylums' Board, North-Eastern Hospital, N. 15.
Worth, R., Esq., *O.B.E.*, M.B., Springfield Mental Hospital, S.W. 17.

Appointed by the Privy Council.

Galway, Lady, 13, Upper Berkeley Street, Portman Square, W. 1.
Haldane, Miss Elizabeth, C.H., 28, Queen Anne's Gate, S.W. 1.

Appointed by the Board of Education.

Fawcett, John, Esq., M.D., F.R.C.P., F.R.C.S., 66, Wimpole Street, W. 1.
Wilson, Miss Eleanor, Dame Alice Owen's School, Owen's Row, E.C. 1.

HONOURS.

Prof. J. SHAW BOLTON, D.Sc., M.D., F.R.C.P., A. NINIAN BRUCE, D.Sc., M.D., F.R.C.P.E., Lt.-Col. J. R. Lord, *C.B.E.*, M.D., F.R.C.P.E., and R. Worth, *O.B.E.*, M.B., were elected *Membres Associés Étrangers de la Société Médico-Psychologique*, November 28, 1927.

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OBITUARY.

FREDERICK WILLIAM APTHORP, L.R.C.P.E.Edin., M.R.C.S.Eng., M.P.C., March, 1927.

HENRY MARCUS EUSTACE, B.A., M.D., M.P.C., December 21, 1927.

WILLIAM BRITIAN MORTON, M.D., M.R.C.S., L.R.C.P.Lond., January 9, 1928.

J. CARLYLE JOHNSTONE, M.D., C.M.Glasg., November 5, 1927.

NOTICES BY THE REGISTRAR.

The Gaskell Gold Medal and Prize for 1928.

The Examination for the Gaskell Gold Medal and Prize will be held about the first week in June.

Candidates are reminded that a thesis based on original research may be accepted by the Examiners in place of either the written or the clinical examination, or both.

The Bronze Medal and Prize for 1928.

Dissertations for the Association's Bronze Medal and Prize must be delivered to the Registrar by April 30, 1928.

Divisional Prizes for 1927.

Papers certified as eligible for this competition must be forwarded to the Registrar not later than April 30, 1928 (*vide* new regulation, *Journ. Ment. Sci.*, October, 1927, p. 775).

Circulars and all information regarding the above competitions may be obtained on application to the Registrar, St. Andrew's Hospital, Northampton.

EXAMINATIONS FOR THE NURSING CERTIFICATES, MAY, 1927.

List of Successful Candidates.

Those marked * passed " with distinction."

Mental Nursing.

Berkshire.—William John Ives, Frederick Herbert Lines, Arthur Martin, Arthur Thomas Porter, Edwin Timson, Harry Robert Wooldridge.

Buckinghamshire.—Herbert John Cotton.

Cambridge.—*Ivy Constance Morrell, Olive May Hope Powles, Bertha Lilian Kate Rowlinson, Hilda May Thompson.

Cheshire, Chester.—George Pleavin, Cyril Sutton, Ivor Hernamen Evans, Margaret Steele, Winifred Pinder, Dorothy Clark, Margaret Dorothy Roberts, Lilian Henley, Elizabeth Hughes, Winifred Roberts, Phyllis Edwards, Edith Lees.

Cheshire, Parkside.—Maud A. Garland, William Gregory, Percival Wensley, Violet Phillips.

Cumberland.—Thomas William Dugdale, Annie Parkinson.

Derbyshire.—James Leslie Corbett, George Henry Hall, Herbert Haffield Talbot, William Tunstall, Lily Cheatle, Elsie Jane Tibbert, Hettie Martha Wainwright.

Devonshire.—Mabel Owen, Irene Vooght, *Gladys Bidgood, Florence May Bickford, Fred Burridge.

Dorset.—William Frank Hardy, Frederick Goodbody, Edwin Charles Harris, George Riggey, Ivy Olive Rose Hill, Daisy Annie Hurle, Lilian Blanche Gardner.

Durham.—Abraham Berriman.

Essex, Brentwood.—Albert Brooker Carey, Edward Heath, Sidney James Stanley, Evelyn Millard Gooderham, Cathleen McMillan, Annie King, Alice Beswick, Elizabeth Alice Ilsley, Gladys May Ball, Marjorie Digby, Beatrice Wakeford, Lawson Samuel Humphreys, Cecil Rudd, Cyril Leslie Wybrow, Selina Rudge, Georgine Mitchell, Emily Maud Lucas, Doris Snelling, Ethel Mary Forshaw, Evelyn Mary Deary, Nellie Hitches, *Florence Annie Bacon.

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Essex, Severalls.—Henry Lockhart Mackenzie Brumbley, Leonard Victor Gardiner, Charles Edward Martin, Adam Robson, Leslie Everard Rowe, Percy Jack Skudder, Charles Alfred Jackson Wood, Alexandra Mary Horne, Catherine Mary Barry, Ellen Oakes, *Gladys Jessie Boston, *Grace Peters, *Mary Hannah O'Connor, *Mary Alice Grinton.

Glamorganshire.—Mary I. Leyshon, Hilda Falkner, Doreen Jenny Wallen, Annie Lewis, Gladys Allen, Gwen Bray, John Henry Phillips, Henry A. Slater, William J. Hill, Douglas G. Meakin, Gwendoline S. Thomas, Catherine Evans, Winifred Thomas, Annie Cole, Margaret Jones, Florence Jones, Edward Wheeler, Armond Jones, Richard David Hughes, William Floyd, Aneurin Bevan.

Gloucestershire.—Bessie Maud Washbourne, Elizabeth Coates, May Frances McQuade, Mary Elizabeth Hart, Kate McGorty, Henry Norman Prince, George Teale, Sidney Samuel Sparrow, Stanley Lumley Hughes, Annie Joanna Lane, Frank Harris, Arthur Wright, Harold William Edgar Yates.

Hampshire, Knowle.—Gladys Elizabeth Anslow, Winifred Rosina Mary Hamilton, Lydia Ellen Pottinger, Agnes Louisa Slack, Mary Anne Harriet Turner, Frances Thomas Berry, George Arthur Corbishley, Victor Emmanuel Young.

Hampshire, Park Prewett.—Cyril Dennis Tasker, Reginald William Davies, James Frederick Rendell, George John Douglas Taylor, Sidney Edward George, William Maxwell, John William George Monshall, Violet Amelia Elizabeth Ludlow, Hilda May Noble.

Herefordshire.—Jessie May Hughes, George Henry Wood, Albert Wiggins, Thomas Wilfred Welling.

Hertfordshire.—William Robert Mundin, Winifred Maud Caton, Eleanor Grace Hughlett, Alice Mary Palmer, Mildred Victoria Perks, Kathleen Gladys Rees.

Isle of Man.—Erica Veronica McGinley, *Isabella Hunter, William Paul Quaggan.

Isle of Wight.—Alfred Samuel Divers, Henry John Harris.

Kent, Chartham.—James Richard Pont, James Fisher, George Martin Bushell, George Arthur Sims, Vera Lilian Sears, Alice May Manktelow, May Kathleen Warner, Elsie Annie Herbert, Ivy Agnes Flood, Bridget Lyon, Katherine Fealey, Elsie May Ovenden.

Kent, Maidstone.—Sidney Frederick Goldsmith.

Lancashire, Prestwich.—James O'Shea, John Wylie, Herbert James Frederick Brien, Alfred Gardner Jones, Ella McCarthy, Alice Armstrong, Lily Shenton, *Nellie Grace Griffiths, Helen Harding, Eva Prince, Sebina Bell.

Lancashire, Rainhill.—Edith Unsworth, Amy Wilson, Nettie Kirk, Audrey Annie Morgan, Mary Kate Cronin, Eleanor Irving, Margaret Kelly, Jane Smith, Sarah Skenhorn, Bertha Forrest, Mary Cranshaw, John Storrow, Frederick Thomas Pridham, Peter Holley, John Robert Cherry, James Carradus, Cyril George Walker Haines.

Lancashire, Whittingham.—Olive Harper, *Edith Bulman, Ada Thwaite, Mabel Whitehead, Henrietta Williams, John Cowley, William Hall, Ernest Cross, Austin Hoggett, John Ireland, Charles Wilkinson, Thomas Huskisson, Thomas Lawrenson, Fred Milner, Cuthbert Parker.

Lancashire, Winwick.—Sarah Louisa Jones, *Jane Thomas, David Sutherland, Stanley Coates, Frederick Peake, George Alfred Kesterton, Ernest Davies, William Edward Keates.

Leicestershire and Rutland.—Frederick Wood, George Hall.

Lincolnshire, Bracebridge.—Isabella Daft, Herbert Cecil Tasker, Harold Fraser Sharpe, Bert Frecklington, Albert Hugh Pridmore, George McGill, *Arthur Proctor.

Lincolnshire, Kesteven.—Madeline Beighton, Nellie Brothwell, Doris Edna Hunter, Gladys Owen, Ernest Scott.

London, Banstead.—Alice Maud Aylward, Gertrude Levener Howard, Gertrude Patience Skelton, Nellie Slesser, Alice May Tunstall, Catherine Louisa Walden, Elizabeth Mary Winch, Albert George Hall, William Coventry, William Thomas Foster, Frederick Church.

London, Bexley.—Annie Charlotte Bell, Dorothy Edith Harding, Edith Amy Purcell, Dorothy Mabel Walters, Thomas Wood, Frank Hoddell Cooper, Thomas Victor Weatherley, Matilda Ivy Duvey, Elsie Beatrice Harrison, Hilda Annie Smith, Grace Lilian Braddon, Charles Thomas Hall, Harry Albert Matthews, Walter John Herbert, Alexander B. Smith.

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London, Cane Hill.—William Alfred Garland, Percy C. Richardson, Maurice George Douglas Williams, Sydney James Grinham, Reginald John Peckham, William Thomas Morgan, Lilian Dorothy Spittle, Daisy May Wells, Florence Agatha Thorn, Rita Annie Carpenter.

London, Claybury.—Mary Emma F. Blair, Jessie Ida Jansen, *Jane Barrack Kidd, May Leslie, Emily Kathleen Reynolds, Jane Rourke, Margaret Wholey, Mary Gilmartin, Julia Tierney.

London, Colney Hatch.—Sidney Vincent Buxton, Sidney Richard Willmot, *James Thomas Capel, Sidney Guy Chambers, Frank Leslie Humberstone, Alfred Ernest Harrisson, Joan Annie Steer, Lawrence Louisa Maud Crane, Doris Theresa McHugh, Madge Elizabeth Ruth Gray, Grace Lilian Turner, Ellen Lucy Leonard.

London, Hanwell.—Hilda Foreman, Clarissa M. Robotham, Julia Murphy, Violet D. M. Gould, Gwenllian Jones, *Millicent Loader, Keturah A. Balson, Caroline E. Hirons, Mary A. Clarke, Benjamin J. Copping, Edward J. Ware, James H. Hill, Albert E. Burge, Albert Berrows, Felix H. J. Cornish, Walter C. Purser.

London, Horton.—Rose Ethel Potts, Iris Joan Ada Geard, Eliza Futter, Madeline Rose Reed, Lilian Mary Gurton, Frances Millicent Beese, Annie Elizabeth Jones. Mary Ellen Barrett, Annie Mary Armstrong, Evelyn Gladys Elliott, May Wright, Florence M. Nickerson, Elizabeth Scanlan, Louise Elizabeth Reed, Gertrude Salt, Kathleen Ryan, Gladys Maud M. Muddell, Pollie Elizabeth Cantrill, Edith Alice Young, Norah Robinson, Lily Miller.

London, Long Grove.—Gertrude F. Baker, Dorothy Alma Tate, Herbert William Crook, Henry Inight, Frederick A. Lovell, Vivian Victor L. Peacock, Thomas James Relf, *Beatrice May Emmerson, George James Atterbury, John Crowe, Frederick George Jaquest, Charles Smith Page, Fred Cecil Porter, Charles Henry Wood, Henry Steele.

London, West Park.—Grace Hartney, Amy Pugh, Violet Given, Arthur J. Andrews, Richard George Brackley, John Brant, William John Chappell, Charles Horace F. Frost, James William Hooper, Edward A. Hayward, Arthur E. Jackson, Samuel Lamb, Archibald Macdonald, Frederick S. Polhill, Ernest R. Redding, Albert Scott, George Sayers, John Archibald Tunley, Cecil R. K. Taylor, Alfred G. Tipping, Robert H. Trendall, Constance Dyne, Margaret Katie Lewis, Ruby Kathleen Morrison, Walter William Brown, Reginald H. Blundell, Albert Edward E. Catling, David Macdonald Clow, William Ernest Green, David J. Harris, Charles Frederick Hilder, Herbert William Lowe, Godfrey A. McGlennon, Horace Edward Petts, Arthur Reddick, John Albert Start.

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Middlesex, Springfield.—*John Thomas Finbrow, William Thomas Garrett, Edwin Richard Hornsby, Edward Harry C. Kemp, Bertie Townsend, Vivian Rhoda Maud Meers, *Margaret Williamson, Violet Valentine, Florence Edwards, Lillian Eyre.

Mid-Wales, Talgarth.—Albert Fawke, Alfred Edward Lewis, Annie Middleton.

Monmouthshire.—Sarah Wheeler, Margaret Mary Pritchard, Edward Cartwright.

Norfolk.—Elsie Chapman, Nora Stubley, Alfred M. William Morley, Reginald Neville, Cecil Aubrey Peatfield, *Horace William Pull.

North Wales, Denbigh.—Edward Ernest Jones, David William Williams.

Northamptonshire.—*Frederick George Austin, Henry Horne, David Hughes Jackson, Frank Welbourne.

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Shropshire.—Muriel Dorothy Norton.

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Staffordshire, Cheddleton.—Thomas Symms, Thomas Henry Padin, Marion O'Flynn.

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Staffordshire, Stafford.—Bertram Ashton, Charles Conlin, Arthur Holford, Bertram Thomas Malkin.

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Surrey, Netherne.—Doris May Gilmore, Gladys Dent, Alice Maud Bush, Jean Robson, William Harold Bray, Albert Edward Rogers.

Sussex, Chichester.—Margaret A. Johnstone, Bertha Bell, *Mary Isabel Gallon, Mary Eileen Fielding, Walter James Mansfield, William Henry Cook, Henry Joseph Webb.

Sussex, Hellingley.—Edward Randolph Page, Sidney Claude Chismon, Albert Mitchell, James Victor Benjamin, Sidney James W. Dorey, Ellen Mary Peeney, Gwendolen T. Thomas, Dorothy H. Thomas, Winifred Humphrey, *Amelia Jeffery.

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Warwickshire.—Lilian Hole, Margaret Ward, Dorothy Clayton, Hilda Hollins.

Wiltshire.—Alfred James Cowdry.

Worcestershire, Barnsley Hall.—Arthur John Jones, Jennie Louise Cooper, Ivy Alice Hancox, Clara Hill, Ellen Hudson, Nellie Gladys Whittle.

Worcestershire, Powick.—Charles Yarnold, Frederick H. Moore, Kate Waldron, Hilda Roberts, Alice Creese, *Violet Lilian Cole.

Yorkshire, Beverley.—Kathleen Craven, Gladys Gladwin, Charles Hopper.

Yorkshire, Clifton.—Annie Hyland, Rosamond Whitaker, Mary M. Kenna, Anna Prior, Marie Conroy, Nora Crowley, Ivy Robinson, Janier Mary Fahy, Florence Townsend, Beatrice Fountain, John Foley.

Yorkshire, Kirkburton, M.O.P.—H. W. Cartner, J. Rice.

Yorkshire, Storthes Hall.—Raymond Armitage, Horace Barber, Harold Carter, Clifford Furze, James Jennings, Thomas A. Monteith, Michael O'Toole, David Shelton, Harry Stafford, Dorothy Jackson.

Yorkshire, Wadsley.—*Frances Clarice M. Plowright, Willis Bingham, Willis Butler, Harry Brown, Arthur Longmore.

Birmingham, Rubery Hill.—Hugh Macmillan, Joseph Packard, Fred Hardy Raymond, Edwin William Henry Fellows, Charles Hill, Charles Bertie W. Gayler, Harry Coope, John Wiggin, Edith Greenway, Caroline Swan McRostie. Alice Self, Sidney Howard Allday, Leonard Wilfrid Shaw, William Albert Perks, Herbert Howard Cox, Harry Clarence Scarle, Joseph S. Baden Powell, Harry Smith, Eunice Constance Rowley, Edith Smoat, Lilian Hannah Dowling, Marjorie Mary Green.

Birmingham, Winson Green.—David McKenzie, Aubrey Rogers, George Strain, James Whatmore.

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Bristol.—Frederick James Clifford, George Price, Aidan Redman.

Canterbury.—Alfred Albert Woodcock, Richard John Stewart, Marion Florence Pepper, Millie Newing, Blanche Ada Cutcliffe.

City of London.—John Beard Coad.

Croydon.—Ivy Thompson, Martha T. Wilkinson, Ernest Elliott.

Derby.—Nellie Arnold, Mary Arnold, *Jane Ann Williams.

Exeter.—Lily Eliza Hooper, *Winifred Pratt, Amy Beatrice Wood, Edmund Ernest Brooks, Bertram B. J. Marks, Albert Joseph Smallridge.

Gateshead.—Hugh Austine Lazenby, James Lowes, Timothy McSherry.

Hull.—Edna Boyce, Theresa Appleton, Edward Towse, Sidney Cook, James Edmund Stamp, Thomas Henry Youghill, Herbert Naylor, Walter Gower.

Ipswich.—George W. Buddinger.

Leicester City.—Dorothy Metcalf, Margaret Thompson Allan.

Middlesborough.—*Elsie Ann C. Colebrook, Mary Sullivan.

Newcastle.—Josephine H. G. Summers, William Wiseman, *Henry McGregor, Albert Finlay.

Newport.—May Rackham, Ruth James, William Charles Morgan.

Nottingham City.—Aileen Kathleen Baxter, Doris May Keys, Lucy Pemberton, Gladys Lamb, Florence Kitchen, Charles C. Burrows, William Betts, Wilfred Herbert Franklin, Eric Stanley Webster, Tom Sharpe, Richard Ould, Joyce Mary Wilson.

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Plymouth.—Alice Maud Horswell, Irene Mabel W. Moore, *Albert Henry Corrick, *Harold Reginald Lake.

Portsmouth.—Charles William Rassell, *Bertram George Press, Phœbe Tazewell, Minnie Ruth Rochefort, Violet Elizabeth Smith, Dorothy Eliza May Langdown, Amy Kate Hayles.

Sunderland.—Arthur Neville, William Lupton.

West Ham.—Cyril Arthur Dickson, Eva Hilda Wastie.

M.A.B., Fountain.—Maureen A. O'Donnell, Elsie Mary Addison, Elsie M. Long, Edith E. Cox, Kathleen E. House, Dorothy A. Scrase, Doris Bertha Hopton, Gertrude M. Willis, Violet R. I. Houlden, Minnie James, Rose L. Allen, Margaret E. House, Emily D. Ampstead.

M.A.B., Tooting Bec.—Hilda Massey, Margaret Mary Kealey, Gladys Bertha Tope.

The Maudsley Hospital.—Gertrude Machin, Prudence Booth, Josephine Ramsay.

Barnwood House.—Wilhelmina E. Stroud, Catherine Louisa Lovell, Florence Hilda M. Dee.

Bethlem Royal.—Arthur Martin.

Bootham Park.—Harry Creaser, Cyril Hoare, Constance M. Hunter.

Camberwell House.—Honoria Casey, Winifred Frances White.

Cheadle Royal.—Ellen Barnes, Amelia Murphy.

Coton Hill.—Edward S. Macgregor, Charles Edward Lloyd.

Holloway.—Nellie Baldwin, Honor Quealy, George R. Eckford, Noel H. T. Prior.

Netley.—William Murphy.

Northumberland House.—Lawrence Richard Durrant.

Peckham House.—Olive Church.

St. Andrews, Northampton.—Herbert Cook, George Marriott, Thomas John Owen, Rose Eileen Flanagan, Brigid Marie Maloney, Dorothy May Rogers, Sidney John Palmer, Frederick Alexis William Craddock, Ernest Norman, Stanley Roberts, Claude Arthur Goodliffe.

The Coppice.—Elsie Swift.

The Old Manor.—William Henry Hoare, Walter George Gaisford, Reginald Edward Trubridge, Sidney George Smith.

The Priory.—John Duncan Morrison, Florence Annie Leaney, Doris Muriel Godfrey.

The Retreat, York.—Margaret Batchelor, Dorothy Clegg, Edith Gardner, Winifred Devaney, Doris May Taylor, Amy Emma White, Sydney Williams, William George Tynan, Frank Goodwin, Oliver Jakeman, Ernest Hudson.

The Warneford.—Winifred May Stavies.

Aberdeen City.—Anna Donald, Jessie B. Massie, William Lumsden.

Aberdeen Royal.—Barbara Mitchell, Catherine Mathieson, Eveline Innes, Jean Morrison Young.

Argyll and Bute.—Alexandrina Lang, Christina Monk, Annie M. Macphedran, Annie B. Taylor, Catherine Turner, Amelia Brodie Webster, Robina Macnab, David Symington Maxwell.

Ayr.—Margaret S. Bryden, Ann Boyd, Sarah Currie, Johnetta Wallace, Eleanor R. Christie, William Strachan.

Banff.—Catherine McCurrach.

Bangour.—Jean O. Bannerman, Annie Duffie, Helen Colvin Gowans, Jemima Dow McGregor, Marion-Brown Little, Mary Wotherspoon Lynn, Beatrice McLean, Charlotte W. Mitchell, Jessie Duncan Sneddon, Janet Watt, William Forbes, George McKenzie.

Crichton Royal.—Duncan McLaren Clark, Hugh Hammond, Jessie Lyon Imlah, Sybil Macdonald, Grace Stephen Mitchell.

Dundee, West Green.—Margaret McLellan, James Honeyman Mitchell.

East Lothian.—Isabella Armstrong.

Edinburgh Royal, Craig House.—Margaret Waterston, Margaret Boyle, Christina McKenzie.

Edinburgh Royal, West House.—Lilian Johnston, Florence Henckel, Violet Norrie, Thomas Ross.

Fife and Kinross.—Charlotte Mowatt, James Allen Craig.

Glasgow, Gartloch.—Jessie Macdonald, Christina M. Macphail, Jean Ross, Susan M. Macneil, Alexander D. Maclean, Thomas Rankin.

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Glasgow, Woodilee.—Marion McDonald, Annie McKay, Margaret Campbell McLean, Marion F. McInnes, Mary McKenna, Annie Canning, Hugh Ralph, Mary Ferrie, Janet Jamieson, Marion Watt, Abigail Thomason, Flora Laing, Agnes Stewart, Annie Macfarlane.

Govan.—Nathaniel Burnett.

Inverness.—Helen Jane Milne, Mary Rose, Emily Farquhar, Janet Mackenzie, Margaret McGregor Pirie, Annie Frazer Mackay, Murdina Macdonald, Catherine Macgregor, William Frazer.

Kirklands.—Catherine McInnes.

Lanark.—Ronald Wilson.

Montrose.—Annie Crowe, Ruby Mary Rough, Margaret Watson.

Paisley.—Mary Jane Young.

Perth.—Ellen Macdonald.

Perth, James Murray's.—Annie Murrey Clifford, Margaret E. M. Cook, David L. Cunningham, Alistair G. McGillivray.

Renfrew.—Nina Kean, Andrew Mackenzie, John Campbell.

Roxburgh.—Annabella Grant, Agnes L. Hogg, Louisa D. Rae, Janet H. Shields.

Stirling.—Grace M. Gray, Catherine B. Bell, Christina Monk, Kate MacMillan, Emily Taylor, James Murray, James Alexander Kelly, Hugh Carr.

Belfast.—Annie Sturgeon, Hugh Murray, James J. McKevitt.

Cork.—John Crowley, Michael Spence, Kate Finn, Norah Dwyer, Mary Lucey, Alice Hyde, Mary Cunningham.

Down.—Annie Commons, Margaret Devenney, Margaret McComiskey, Josephine McComiskey, James Kenning, Daniel McCarthy.

Dublin, Grangegorman.—James Hickey, Mary Keeshan.

Dublin, Portrane.—Richard Spencer, Edward Campbell.

Maryborough.—John Conroy.

Mullingar.—Mary Lee, Mary Kate Tully.

Omagh.—Elizabeth Armstrong, Winifred Blee, Hannah McNicholl, Sarah King, John F. Corrigan.

St. Patrick's Hospital.—Kate Cawley, Jane Gogarty, Annie Kelly, Rebecca Kingston.

South Africa, Fort Beaufort.—Gertruida Maria Petronella Van Zijl, Sarah Henrietta Leff.

South Africa, Grahamstown.—Annie Edith Wakeford, Izak Potgieter, Daniel Jeremias du Toit, Johannes Pienaar Mattheus, Timotheus Meyer, Petrus Poulis Roos.

South Africa, Pietermaritzburg.—Joseph Edward Jarvis, Hendrik Jacobus Stander, Mabel Bishop, Jessie Drummond McFarlane, Emma Marie Martha Bakeberg.

South Africa, Port Alfred.—John Bernard de Meillon.

South Africa, Pretoria.—Maria Elizabeth Davell.

South Africa, Queenstown.—Sarah H. Ashwell, Laura Elvera Smith.

South Africa, Valkenberg.—Welm Hermanus Louw, Elizabeth Johanna Troost, Annie Maria Frederickson, Constance Annas Patterson, *Anna Dorothea du Toit, Elizabeth Martha Marais, *Maris Stella Barry, Helena Gerty Fahrenfort.

Nursing of Mental Defectives.

M.A.B., Caterham.—Albert Howard, Hugh Thomas Vincent, Sarah Louise Hunt, Kathleen Olive Philpott, Beatrice Brisley, Lilian Florence Girling, Beatrice Lilian Hester, Charlotte Davies, Mary Kelly.

M.A.B., Darenth.—Winifred Edith Green, Elsie Jarrett, Rose Priscilla Ross, Beatrice Ashdown, Gladys Gwendoline Dibley, Mercy Mary Hawkins, Thirza Elizabeth Gray, Elizabeth Kathleen Smith, Beatrice Thornton, Ivy Alice Craske, Alexander Skinner, Archibald Brown.

M.A.B., Leavesden.—Emma Clara Greenwood, Ida Susan Town, Elizabeth Moore.

Calderstones.—Elsie Booth, Alice Burke, Elsie Dennis, Elizabeth Geraghty, Edith Evelyn Herd, Annie Holding, Jennie Murphy, Doris Quinlan, Gilbert Lea, Henry Thomas Brill, James Clarkson, Edward Sowerby, Harold Brook, Lewis Tomlinson Birch.

Monyhull.—Maud Elizabeth West, Dorothy May Penver, Eva Davis, Gladys May Smithston.

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Monyhull Colony.—Violet Elsie Southwick, May Chesters.

Rampton State Institution.—Annie Emily Thorpe, Bertha Swales, Jessie Agnes Clarke, Catherine Webster, Florence Laycock, John Hughes, Victor Cyril Jacques, Patrick Byrne, Percy Welton, George Ebbatson, Alfred Patison, Frank Redvers Muggleton, Horace Wilson, Ernest Sidney Richmond.

Stoneyetts Institution.—George Thomson, Annie McPherson.

South Africa, Alexandra Institution.—Catharina Cornelia Le Roux, Sophia Catharina Johanna Visser, Adelaide Clara Valentin.

South Africa, Witrand Institute.—Helena Johanna Christina Esterhuizen, Simon 'tHart, Maarten Jacob Malan.

NOTICE OF MEETINGS.

Quarterly General Meeting.—February 16, 1928, at the City Mental Hospital, Fishponds and University, Bristol.

South-Western Division.—April 26, 1928, at the Stoke Park Colony, Bristol.

Scottish Division.—May, 1928, at the Crichton Royal Institution, Dumfries.

Irish Division.—April 5, July 5, November 1, 1928.

Special Meeting of the Council.—February 15, 1928, at the University, Bristol.

Pathological, Bacteriological and Biochemical Sub-Committee.—February 20, 1928, at St. Andrew's Hospital, Northampton.

APPOINTMENTS.

Barkas, Mary Rushton, M.Sc.N.Z., M.D., B.S.Lond., Medical Superintendent, The Lawn, Lincoln.

Boyd, W., M.B., Ch.B.Edin., D.P.H., Medical Superintendent, Fife and Kinross District Asylum, Cupar, N.B.

Connolly, V. L., *M.C.*, M.B., B.Ch.Belf., Medical Superintendent, Hants County Mental Hospital, Park Prewitt, Basingstoke.

Crosthwaite, F. D., M.B., Ch.B.Edin., D.P.H., Physician Superintendent, The Mental Hospital, Queenstown, South Africa.

Eddison, H. W., M.A., M.B., Ch.B.Camb., D.P.M., Medical Superintendent, Wonford House, Exeter.

Shepherd, C. E., M.R.C.S., L.R.C.P., D.P.M., Senior Assistant Medical Officer, Hants County Mental Hospital, Knowle, Fareham.

Skottowe, J. S. I., M.B., Ch.B.Glasg., D.P.M., Senior Medical Officer, City Mental Hospital, Whitchurch, Cardiff.

ACKNOWLEDGMENT.

Dr. G. W. T. H. Fleming, Hon. Secretary of the Clinical Sub-Committee, desires to thank whose who, at his request, are sending him copies of clinical forms in use at the mental hospitals.

OCTOBER NUMBER, 1927. REPORT OF ANNUAL MEETING.

Corrigenda.

Page 692, line 26, " Honorary General Secretary " for " Editor of the *Journal of Mental Science.*"

Page 694, 4th line from bottom, " W. J. T." for " J. W."

,, 694, line 25, " G. W. T. H." for " W. L. R."

,, 707, line 34, " Psychiatry " for " Insanity."

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Continued from page ii of cover.

A Cytological Study of *Puccinia coronata CDA.* on Banner and Cowra 35 Oats, by *M. L. Ruttle* and *W. P. Fraser.*
The Group Method of Analysis: The Problem of the Transference, by *Dr. T. Barrow.*
Mental Disease in Relation to Eugenics, by *Dr. A. F. Tredgold.*
The Treatment of Certain Mental Diseases by Ringer-Locke Solution, by *Dr. John P. Steel.*
Induction of Premature Labour in Relation to Mental Diseases, by *Dr. R. Percy Smith.*
The Clinical and Pathological Effects of Hypnotic Drugs of the Barbituric Acid and Sulphonal Groups. Agglutination of Typhoid and Dysentery Organism, etc., by *Dr. F. A. Pickworth.*

Books received for review:

Recent Discussions on "Time," by *Dr. G. F. Goldsbrough.*
Speech: Its Function and Development, by *Grace de Laguna.*
Mental Handicaps in Art, by *Dr. Theo. B. Hyslop.*
The Invert and his Social Adjustment, by *"Anomaly."*
The Examination of the Central Nervous System, by *Dr. Donald Core.*
Psychology and the Soldier, by *F. C. Bartlett, M.A.*
Genie Irrsinn und Ruhm, von *Wilhelm Lange-Eichbaum.*
Metaphysics and Modern Research, by *J. C. Isbyan.*
Psychopathologie Générale, par *K. Jaspers.*
Undersøgelser over nogle of Blodets Elektrolyter (Ca.K.Na.H.) og det Vegitative Nervesystem, etc., af *Helgi Tómasson.*
Les Syndromes Mentaux, par *A. Porot.*
Inside Experience, by *Dr. Joseph K. Hart.*

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JOURNAL OF MENTAL SCIENCE.

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J. R. Lord, C.B.E., M.D. **Douglas McRae, M.D.**

Thomas Beaton, O.B.E., M.D.

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The Congress of French-speaking Alienists and Neurologists will be held at Antwerp, under the presidency of Profs. Henri Claude, of Paris, and Auguste Ley, of Brussels, on July 23, when the following questions will be discussed: Catatonia, introduced by Prof. Paul Divry, of Liège; neuralgias of the upper limb, introduced by Prof. H. Roger, of Marseilles; and treatment of general paralysis, introduced by Drs. B. Dujardin, of Brussels, and René Targowla, of Paris. Further information can be obtained from the General Secretary, Dr. F. Meeus, 21, Nervierstraat, Antwerp.

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HAMILTON MARK, Esq., M.D., F.R.F.P.S.,

President,

1927–28.

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THE
JOURNAL OF MENTAL SCIENCE
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Part I.—Original Articles.

Psychiatry and Science. By GEORGE VAN NESS DEARBORN, M.D., Ph.D., U.S. Veterans' Hospital No. 81, New York City.

[*Having been somewhat acquainted, in Boston and New York, with deranged minds since, say,* 1893 (*under the practical guidance of Starr, Peterson, William James, E. Cowles, Noyes, etc.*), *and technically with normal mind for thirty years* (*James, Münsterberg, Royce, Delabarre, Ladd, Putnam, Cattell, Farrand, Boas, etc., four of these also being graduates in medicine*), *certain considerations long have appealed to me which now I really must get out of my psychic system, hoping that they may prove to be worth the expense of their publication and the time of reading them. These extravasations are offered for what they are worth, "when, as and if" constructive as well as eliminative concepts.*]

PRIMITIVE brains and intelligences, whether in earliest man, utter savages, young children or the feeble-minded, find it difficult or impossible to handle abstractions fast and rationally; on the other hand, interest and skill in cerebrizing the abstract, *pro tanto* is an index of high intelligence. On this "perfectly good" psychological basis psychiatrists as a class are persons intelligent above the average, and properly may be so considered. Thus it may be assumed that if they do not continuously bring into use every available aid and contribution to their science (and probably most of them do not), it must be mostly due to lack of opportunity and of habituated interest. And that, of course, is the still obvious fact.

It is difficult to exaggerate the persistent power of habit, and however good and broad and scientific are a young physician's professional intentions at first on graduation, no one is going

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actually to blame him if the scientific keenness and enthusiasm dwindle as he gets into the rut, especially in remote locations, where a competence and usually family life, if not the example of all the medical men about him, tend, unconsciously it may be, to smother scientific progressiveness in his mind and work. One doesn't blame him at all—one simply reminds one's self again how relatively few are the research-men and true scientists even in our own exalted scientific profession.

It is hard, too, for most of us to get out of the traditional ruts of the old-time asylum—a prison, a refuge, not a scientific hospital with continually many kinds of new methods, new data on diagnosis, new treatment, new nosology. Every psychiatrist in a hospital (and most American psychiatrists, at least, are in hospitals) tends to be only a ward-healer (if the term may be adopted free from its punitive connotation), rather than a modern, progressively and psychologically scientific physician really desirous of all possible new knowledge and new point of view. In general it is true, *à la Socrate*, although with exceptions, of course, that a man will "do as well as he knows." The alienists are as wide awake and as progressive as their usual wholly unpsychologic training in the pre-medical and medical schools allows them to be. "One cannot see the ideas and so they are of no account"—that is the "brass-tack" logical ground (so utterly false and misleading) of the materialism of medicine. As if ideas and fancies and feelings and motives and desires, and the rest of the "intangibles" with the hands and the scalpels, had not many times more to do with the conduct of man's life here and possible hereafter than have all the material objects of this world! (1).

The spirit of the ideal neuropsychiatric hospital is unceasing change and development (which President Lowell wisely told the 1927 freshmen is true of all Harvard). This is as far as zenith from nadir from the traditional State hospital in the less cultured and educated States of our land, where the asylum standards still apply to the patients, and the sinecure standard contents the doctors years and years on end. On the front portals of every hospital, on the other hand, should be carved the ancient and always modern wisdom of Heraclitus, that "nothing is constant on the earth but change."

Alchemy, astrology, phrenology died their inevitable death because, on their respective unscientific roads, they no longer could change, develop, acquire new methods, and new points of view. The very essence of chemistry, astronomy, neurology are their possibilities, through research unceasing, of evolution into matters wholly without present assignable limits. Who would be the fool

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to prophesy that anything whatever "never could be known." Do we not know the chemical composition of the photospheres of the very stars themselves?—millions of light years away!

Psychiatry and Psychology, although sisters, both daughters of the eminent personages Biology and Philosophy, are on disgracefully unfriendly terms, ignoring, sometimes even snubbing, each other quite as if the same ancient and excellent true blood did not course through the veins of both of them alike. The reasons for this wholly unfortunate family coldness, not to say feud, need concern us but briefly, since we are not writing a biography of either psychology or psychiatry. Indeed, in order really to explain it we should have to construct a brief genealogy of the Philosophy family back into the Middle Ages, noting its connections with Scholasticism.

Sometimes, reading the literature, one would suppose these two sciences wholly unrelated to each other: psychiatry not properly a part of psychology and with nothing to learn therefrom; and psychology so wise in its own conceit or narrowness that most of its votaries fail to realize that deranged mental action is mental action still, and that much histology has been learned from pathology, much about airplanes and airships from their costly falls. The basal reason for this mutual overlooking, I believe, lies buried primarily in two considerations: partly in metaphysics itself, and partly in the philosophical history of centuries in Europe long gone past, and as yet not adequately evaluated in its influence on many phases of the public opinion—so fixed!—of to-day.

As for the former, the monistic view-point of body and mind has not yet pervaded as it will pervade the practical thought of either medical men or of psychologists, with the consequence that mental processes often are considered independent of any bodily functions or changes. Thus physiology, laboratory psychology, neurology, paleoneurology, etc., welcome handmaidens of Psychology, are all too often ignored by her sister Psychiatry. Yet how utterly inconceivable in any scientific sense is a mind without concomitant organism to bring it within the range of causality and space and time!

In a more particular way it may be worth suggesting how unjustified in the last philosophic analysis of the mind-body relationship is the commonly made distinction, not to say contrast, between psychogenic factors, regression, etc., and these admittedly of an organic ætiology or concomitance. Like Flechsig's naming of the two-thirds of the human great cortex "association"-areas obviously just to hide our illuminating ignorance of their work in life, so still we call those processes whose organic concomitants we do not know "psychogenic." But it is hard to believe that any

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psychiatrist in this twentieth century A.D. can remain so much a dualist as to really believe, when he thinks of it, that any process whatever goes on in the mental stream unaccompanied temporally by some sort of alteration or process in the organism somewhere, notably often, of course, in the brain, the great switchboard of somatic and neural influences. "Psychogenic" means nothing save that we presume to *ignore* in using the term the neuritic, the vasomotor, the chemical (trophic and endocrinic) changes or processes that doubtless, with every scientific probability in our science, are occurring there as the bodily aspect of the mental process concerned. On no other basis is life comprehensible or psychology scientific. And yet some writers on mental disorders, especially the "Freudians" (Freud gives much credit to Breuer), go on talking about psychogenic diseases of mind much in the spirit of Des Cartes, master-dualist, dead in 1650! It certainly is as unscientific to ignore and to refuse to employ one's well-founded and well-controlled scientific imagination as to use it to excess. The former fault has impeded the progress of scientific truth far more than has the other. As I have tried to set forth convincingly elsewhere, it is little short of absurd to talk as if, in the old senses, a "psychosis" could go on without a concomitant "neurosis," just as it is absurd to try to picture to one's self, to make at all explicit, and to rationalize, a disembodied spirit. F. H. Bradley's *Appearance and Reality*, a most important and entertaining classic of the metaphysicians, has set us once for all the pace in all attempts of that sort (2).

But on the other hand, the professional alienist should note that it is quite as absurd to think of an extensive brain-injury, whether traumatic, neoplastic, or developmental, without corresponding mental alteration or lack, if only it could be found. Of course we still know but little of the true mode of the brain's operation—just a bit here and there—and the big underlying plan is wholly dark to us. I am aware of the statements of the books on neuropathology that organs as essential, say, as the corpus callosum can be wholly absent from the brain and the "adult have shown no mental abnormality whatever during a long life," etc. For one, I am sceptical of the biographic data of these and homologous cases because aware how uncertain such matters are, and sensible, too, of the psychologic intricacies not readily appreciated by a medical man investigating such a person's mentation and behaviour, largely among his still sorrowing relatives and friends, loth to tell uncomplimentary truth. Eight or ten thousand million pathways in the brain! Does not the very incomprehensibility of the number imply the difficulty of actually realizing, concretely, the

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patterns of their action in relation to mind and to behaviour? I for one think that in these intricate premises the physiologists and the neurologists, normal and morbid, have done very well indeed; and Science still is young—just able, in fact, to toddle about a bit alone, self-reliant and unafraid. Mankind, perhaps, is nearly a million years old, or say two millions, but science is three hundred or four or five—how relatively infantile!

As for the latter reason for the coldness between these sister-sciences, that is to be found in mediæval history. It is not that anyone seriously deems mind diseased no longer mind, and so, useless and uninteresting to psychology, but that there certainly does linger in the scientific atmosphere the residuals of an unpleasant odour—a prejudice, in short, from mediæval philosophy that still prevents a catholic, broad estimation of mentality, and still sees in psychosis, psychoneurosis, personal inferiority, feeble-mindedness, subconsciously at least something uncanny, unpleasant, unproductive, inaccessible, hard to work with, devil-possessed, "psychogenic"; sees disturbances of a soul too esoteric and superior to be within the reach even of the therapeutist if he be a layman, and certainly beyond the grasp of the mere scientist.

And, moreover, psychology and psychiatry have not yet formed enough acquaintance with each other to have learned to profit by each other's assistance.

Another prejudice, also of mediæval origin, that tends to limit the interest of academic psychologists in their multitude in insanity and constitutional inferiority, for example, is the fact (known even to the psychologists), that most mental derangement is essentially a disturbance of the basal and dominant feeling-will "drive" and control, feeble-mindedness being the only strictly intelligence-madness (Bleuler, "oligophrenia."). Psychosis, etc., being thus largely affective, psychology as yet cannot analyse it as it has analysed and measured the cognitive processes proper. This fact psychiatry realizes, and so naturally ignores psychology even in its most pressing need. Intelligence has been studied by psychology out of all proportion to its practical importance in life, because by tradition from Scholastics, etc., only that phase of mind that was supposed to be wholly peculiar to the normal human soul was worthy of discussion, that human soul that became the glorification of thought as something wholly distinct from, if not opposed to, all live creation besides—the brutes, the insane, the idiotic, the heretics, in fact God alone excepted. This is an evil heritage, this apotheosis of intelligence, that so far has narrowed the range of psychology and helped to prevent the mutual helpfulness of our sister-sciences, daughters of man's most useful thought. (To it

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also, partly at least, is due the general cruelty to animals seen in certain nations of the world.)

Few indeed have better reason than the writer to know first-hand, by somewhat discouraging personal experience, how complete (until recently?) was the medical student's lack of interest in the psychological aspects of medicine. In 1902, already a professor in a large "Class A" medical school, he coaxed the faculty to sanction the offering of a course in normal medical psychology. They would not allow it to be "required," so it was put in the catalogue as an optional course. After three years it was withdrawn because of the small percentage of the classes (of a hundred or so) who registered to take it. Later it was combined and given with the course in psychopathology offered by Prof. Morton Prince, but even then never to overflowing amphitheatres of psychology-thirsty medical students.

Because so greatly in need of analysis of the affective processes, so-called (as if any mental process ever were purely emotional or purely intellectual or purely behaviouristic!), one wonders that psychiatry as yet has not systematically set about the study and the measurement, one or both, of feeling and emotion, or if it doesn't know how (having so very few laboratory-research folk), why it doesn't commandeer the services of psychologists to this essential end. Certainly this is the most indispensable of all psychiatry's needs at present if it would become scientific instead of empirical and traditional. Growing knowledge of the autonomic, of the vagus, and of the glands and smooth muscle (especially vasomotor?) that these control, makes this analysis and study continually more easily available. Here is a place where the competent two sisters could get into *rapport* to mutual benefit, and yet one hears of such work in the research institutes of the State and psychopathic hospitals only a bit now and then. Why not an adequate commission with funds sufficient so that they might do intensive work on the affects, comparable in effectiveness to that done on the intelligence and its measurement during the late war? To psychology it would mean a valuable extension of its knowledge, but to psychiatry it might mean a new basis for nosology and diagnosis, and perhaps almost a new science so far as treatment is concerned. Is not such a need as great as that which led to the discovery of so much psychometry of value during the war? Do not more people die during a generation of "dementia præcox," "schizoid manic-depressive" and "manic-depressive depressed" than of gunshot wounds, etc.?

This matter is a pressing one. With all the good intentions in the world—as good at least as might be expected from the broad

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motive of the meeting—the recent symposium on emotion held in a Western State does not seem to have gone as biologically or as physiologically or as neurologically into the nature of emotion as it might have gone had the psychiatric motive (say in schizoid states, "temperaments" and life-habits) been more conspicuous. We are not much further in understanding the relations of the endocrines, the autonomic, vasomotion, cerebration, etc., to feeling. Many expressed expert opinion of great value; but what, after all, psychology needs most herein is years of intensive physiological (including biochemical and neurological) research by trained researchers. Then we shall learn about emotion.

The research psychologists, of whom there are always more and more and more, have never concertedly or even seriously, as individuals, taken up the study of the psychology and physiology of properly psychiatric problems. For example, take catatonia (especially flexibilitas cerea), the retardation of encephalitis lethargica, the mechanism of hallucinations, and numerous hysterical phenomena. May one be certain without adequate (*i.e.*, concerted and elaborate) trial that some of the expert technicians of the psychological laboratories, with the aid of technical neurologists, physiologists, physicists and biochemists, could not explain such phenomena, and explaining them, give us at least a little insight into the causes of psychoses and the rest? The plain-enough fact, however unpleasant to the truly scientific psychiatrists, is that our science has not yet got beyond the all-too-empirical stage of a specialty of medicine not yet itself any too generally enthusiastic for the research work of pure science, because, in part, forgetful that therethrough comes improved therapeusis and a larger percentage of "recoveries" and "improvements." But just a glance at psychiatric history, brief as it is, shows us that whenever psychological and physiological analysis have been undertaken and adequately carried out, appreciable psychiatric advance has been accomplished—the discoveries of one day being the text-book material of the next day. Witnesses in a cloud (none too big, however) confirm our observation: Charcot, Janet, Kraepelin, Freud, Tredgold, Kirby, E. Smith, McCabe, A. Meyer, Kempf, Adler, Draper, Prince, and numerous other workers on the fundamentals of the mind-body relationship in disease and in health. But psychiatry needs many more modernly trained and well-read research men and women enthusiastic for these great problems of mental hygiene and psychiatry. Habit, attention, imagination, reasoning, are other topics on which the psychiatrist needs technical knowledge.

Take, if you please, as an example of the sort of research, especially

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promising because of its plain motor concomitance, catatonia: is it to be doubted that if it were seriously studied by the psychologists and physiologists of Harvard, Columbia, Stanford, Oxford, Cambridge, or of any of the other universities with the indispensable co-operation among their departments, that this curious phenomenon of the psychomotor mechanism would not soon be understood, and with it, likely enough, something at least of the nature of præcox, of stupor and of retardation? At present the psychiatrists have little interest in inhibition, for example, despite the obvious fact that it is important, perhaps, in their business of diagnosing and curing mental disease well enough to keep their positions on some hospital staff. They are "interested" in it, but not effectively for scientific progress.

Of course only the very youngest, academically speaking, of the psychiatrists have adequate knowledge of systematic descriptive psychology, so new is its adoption by the leading medical schools. But trained or untrained in mental science in general, every alienist should realize that morbidity of mind is best realized when one compares it with the normal, just as pathology gets meaning only to the mind familiar with gross and minute anatomy, physiology and general biology. The new step of Prof. Percy Hughes (3) stressing the necessity for a "biotic centre" in psychology deals "not with reactions, or with mental states or with a 'psycho-physical organism,' but with life-movement and with life-careers"—personal biographies. This will make the psychological view-point even more essential for psychiatry, for the comparison of personal behaviours, the deranged, anti-social with the median "normal." In reality it is the old idea urged by so many advisers at medical commencements for so many years: "Treat the whole patient and not his disease," only that now we add, "in the light of his ancestry and of his upbringing"—considering his nature and his nurture. Psychiatry will never go far in real progress until it adopts a real and consistent *individualism* as its unit of judgment and diagnosis.

This is, perhaps, something of large import to psychiatry that is owed to psychology. The latter science doubtless would develop rapidly this "biotic centre," the whole life-history and life-behaviour as the only adequate basis for an understanding, and for a diagnosis, too, of an individual's mental derangement. This need not be, it should be observed, a medical life-history at all, for usually it is a history of events and experiences and ideas, and affective sets of mind well outside of medical interest (unless psycho-analysis be classed as a purely medical matter, which the Austrians and the Swiss at least are rapidly showing us it need not be at all). We are

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seeing the revolt against the strict Kraepelinian nosology, stirred by the misleading so-called " dynamic " concept for which Breuer and his followers Freud and all the rest are partly to be thanked. Kempf, in his keenly insighting and prophetic schema of continuity between the lightest psychoneurosis and the most malignant psychosis, published less than a decade ago, has made part of this new psychological trend explicit, and so taught much to those of us at least who were in a mental state for the reception of such a relatively radical suggestion. The new view-point of Hughes (and of A. Meyer) adds another somewhat different invoice of building-material to the new nosologic structure and lends it strength.

For we can now begin to see that " the mind," as psychiatry no less than the public at large thinks it, is not at all an aggregation of parts, faculties, functions, processes even that may be diseased separately or in pathologic groups, or in " diatheses " even. Rather is mind, *the* mind, if one prefer, a *continuum* of experiences unified into an always changing and yet unique and separate personality, whose chief logical nature or meaning is *purpose* in the old true Fichtean sense. At every hour of its life such a patient, we see still more clearly, is not only the child of its parents and its remote ancestry, but in a most definite and literal sense is the child of all its personal experiences. A man's liver may be pathologic or his left columns of Goll and Burdach diseased or his arteries sclerosed, and a definite more or less (usually less) localized effect be produced in his life capable of definite precise diagnosis with a useful denotative name to it. But we are beginning to see that " mind " (better, the personality) is not that sort of construction, although including that very construction as part of its mortal " training " period, for reasons easily set forth. Personality which gets out of personal and social gearing when the individual becomes psychotic, cannot be so cavalierly dismissed, diagnostically speaking. The personality all the while has been a *continuum* both in time and in motivity as well as in the effects. To understand it fully would require an impossible detail of impossibly remembered experience of every sort—impressions from without and from within of a million kinds, degrees and relationships. The only insane person theoretically who could really understand fully his own case and be able to make a perfect diagnosis would be a psychologist, or a psychiatrist perhaps, with a memory better than ever a man had yet for his past thoughts and experiences.

The psychiatric corollary of all this is that diagnosis should always be considered as a practically expedient makeshift for statistical convenience only. We must " scrap " the old nosologic groups, refuse to make any new groups, and devise some means

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of denoting varieties and degrees of mental abnormality. It may come to a point-scale along two or three trend-radii or be put on a percentage basis of social or personal incompatibility as soon as we learn to measure the affective variations.

However far off such a system of diagnosis be, *individualism*, the "biotic centre," undoubtedly is one of the urgent needs of to-day in psychiatry as it is in psychology. The more one studies mental disturbances, from the wilful child to the most rapidly dementing paretic, the surer one is that the majority of them are really comprehensible, so far as mental at all, only in view of the entire experience, life-long, life-deep, of the individual, and also of the parental experience and heredity to a still undetermined degree. To the metaphysicians, one's reality itself is in a way proportional to the variety and depth of one's experience, and this principle of Hegel applies, properly adapted, to psychosis in some degree. And of all this life-experience, effective in mental derangement, motives are the essential thing at first (before habituation largely takes control), and purposes are mostly blind until the light of the algebraic balance of one's life experiences, one's personality in short, has shone upon the motives of every hurrying moment of thought, of feeling and of behaviour, making them rational.

The necessity for general intelligence measurement—"psychometry"—among the patients of the alienist, merits whole articles for itself. F. L. Wells's recent book is timely and a good start along this road. The present writer has had the reckless temerity (a psycho-analyst deemed it of "not very much account" in a recent meeting of the American Psychiatric Association) to suggest (4) a reliable means of determining and measuring intellectual regression and deterioration and progression in any psychotic person capable of and willing to co-operate with the examiner. Because regression of intelligence ordinarily goes hand in hand with affective regression or slump, the method has practical use in most of the conditions of derangement found in our hospitals and sanitaria—in diagnosis, prognosis, hospital care and treatment, paroling, discharge, etc. Every neuro-psychiatric patient needs for his own good a psychometric examination at the outset and yearly or so thereafter. The sundry sanctions of such a system the sincere and thoughtful psychiatrist may readily make explicit to himself, and it might properly be considered part of his professional duty thus to orient himself in the progress of these years now passing. This work has been accompanied by Sister Psychology.

Psychiatry, again, needs to study for its own purposes the motivity of deranged behaviour, just as Prof. M. K. Thompson has

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analysed normal motivity in his valuable *Springs of Human Action* —a work recently off the press, far-reaching and keen. The followers of Freud (often so far "after" him as to be away ahead of him !) have given us more of this necessary psychiatric material of progress than have others, and many have seen great profit therein. At any rate, it has stirred up psychiatry and awakened it to some sort of research and thought certainly well worth while and better than none at all. Its supposed motivity of much of psychosis has served its purpose, but now come along two thousand pages of research report by Robert Briffault (5) showing beyond a reasonable doubt that several of Breuer's (and Freud's) pet assumptions (for example, the "œdipus complex," sexual jealousy, and the dominance of the male in primitive society) had no existence in times pre-palæolithic as obviously they have none to-day, save, as formerly, in narrow and temporary localities, too trivial to serve as a basis of so wide a generalization. Freud's present anti-physician complex will not be mollified by the evidence provided by this impressive work, published for a purpose wholly unpolemic. But psychiatry needs, none the less, more of the science of true motivation such as the psychologists alone are apt to produce.

One reason why psychiatry and psychology have so little present use for one another is that neither knows in general either the content or the capabilities of the other. They do not as yet speak the same dialect of the general psychologic language, much as peasants of different parts of France are scarcely intelligible to each other. Only by becoming almost learned in a science can one realize the intricacy of its content in detail, its methods, or its facilities and abilities. Few professional psychiatrists are technically informed and trained psychologists, and practically none therefore realizes to an effective degree how very much adequate analysis of psychiatric problems, never as yet made manifest and insistent, could add to its knowledge of them and of mental derangement in general. To a less extent the same is true of physiology in relation to psychiatry, of current and pre-palæolithic neurology, and even of biochemistry. But why not give them a chance?

This is not true in its converse relation to psychology, because psychiatry is a descriptive rather than an analytic science, and has little to offer to psychology that is not in its text-books, or to be had by continued observation in a State hospital ward and staff-room. Psychology has more for psychiatry perhaps than has psychiatry for psychology, even with abundant facilities.

Certainly is psychology more available to psychiatrists than is knowledge of the deranged to students of psychology—an undesirable lack, now in the way of being corrected in several universities.

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Medicine has many advantages as a part of the general education of the cultured man and woman; and the student of psychology who has a knowledge of the first two years of the medical course and of the work in neuropsychiatry has a basis for his understanding of mind in general that cannot otherwise be equalled. For the average student of psychology, fortunately for the pocket of the average psychiatrist, psychiatry must remain for a while yet a book closed and locked by tradition. At present, probably few psychiatric hospital superintendents or medical officers in charge would care to have classes of unmedical students enough in their wards, or staff-conferences, to be worth the students' time of attendance. It certainly is worth insisting that there is no competent or relevant reason why this should be thus, unless outworn custom be a guide for ever unchanged and even unconsidered.

In like manner, there is no reason that a physician would be willing to enlarge on and to advertise, why a good psychologist who is not a medical graduate should not, after sufficient practical experience with the insane, be an expert and wholly competent psychiatrist on the staff of a State or a Government hospital. I am free to maintain that the contrary view is traditional, rather than logical or scientific or even therapeutic. The medical work, outside of that purely psychiatric, could then be done quite as well by an internist, just as now the surgery, urology, otology, etc., are not often done by the alienists. There is no reason within my ken, at least, why diseases of the mind need be on any basis different from specialized illness in this respect. Before long this will be tried out somewhere, I am sure.

The familiar old proverb of the State hospitals, to the effect that no one could get real psychiatry outside of a State hospital, may at one time have had in it some truth—I have heard it from truly wise superintendents. Certainly it is false now, and is fast becoming more so, as will witness the Veterans' Bureau Hospitals and some of the more scientific of the private sanitaria, as well as, of course, the hospitals of the Navy, the Army, and the Public Health Service. Nowhere is better psychiatry put in practice than in some of the psychopathic municipal hospitals, medically manned and womanned by wideawake young physicians, for the most part with broad-seeing education, fully aware of all the newer trends (social, penologic, juvenile, domestic, judiciary, industrial, etc.) of present applied psychiatry. Thus the psychologists no longer are dependent for adequate acquaintance with insanity, etc., on the wards of the State hospitals, so tightly locked from without as well as from within. It just may happen that some day medically trained psychiatrists, jealous of their positions, will have

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this point brought gradually or suddenly to their really effective notice.

"Constitutional psychopathic inferiority" so-called, personality defect), so important for the real psychiatric and mental-hygiene progress in knowledge of our people, has recently been getting part of the scientific study it deserves, almost wholly by medical psychologists, either directly or through their intensive study of constitutional normality, the median personality. One thinks first of Prof. R. S. Woodworth's work, that of S. D. House, Ph.D., and that of Prof. Laird, as well as the writings of sundry others about the bases of delinquency in girls and boys and adults—all studies of personality-defects.

And then from still another science, paleoneurology, comes an integration concerning the neurology of this defect that is well worth mention as a recent extra-psychiatric contribution to psychiatry, this time from the advanced integrating writers of England who have done so much to advance our understanding. For an example, let us read over a few sentences by Dr. Murphy (Reader in Anthropology at Oxford) from his *Primitive Man*, just published by the Oxford Press: "Prof. Elliot Smith points out that 'the development of the brain of Neanderthal man was partial and unequal. That part of the organ which plays the outstanding part in determining mental superiority was not only relatively, but actually, much smaller than it is in *Homo sapiens*. The large size of the Neanderthal brain was due to a great development of that region which was concerned primarily with the mere recording of the fruits of experience, rather than with the acquisition of great skill in the use of the hand and the attainment of the sort of knowledge that comes with manual experiment.' [*The Evolution of Man*, second edition just published.] The importance of this characteristic of Neanderthal man lies in the fact that the low development of the frontal region of the cranium is necessarily accompanied by a low development of the pre-frontal region of the brain. It is striking to discover that this deficiency in the frontal part of the cortex is shared with Neanderthal man by the modern infant and by such a primitive existing type as the Australian native. The cerebral area referred to is that in which the power of co-ordination or of unification resides." This we, in turn, may add, represents the essence of human modern personality, the unification of personal wisdom and experience into individuality, whose essence is a set of *purposes*. In the light of the accepted neuro-pathology of feeble-mindedness we certainly are justified in assuming that true constitutional psychopathic inferiority, and perhaps the "constitutional psychopathic states" of several types of the U.S. Public Health Service

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diagnosis-list, still in use in the Veterans' Bureau Hospitals, are due to congenital or developmental (or both) defects, perhaps purely cytologic, in the prefrontal or prefrontal and frontal neopallium. This supposition seems exactly to meet the required correlation between mind and body, for it is just this lack of definite purpose in living, of dependability, of a set mode of living which we find oftentimes the most conspicuous feature of constitutional inferiority, and indeed sometimes the only thing in the case that is consistently "abnormal" *i.e.*, unusual from a social point of view. Unless my observation be fallacious, this is similar to that seen so often now in the Negro and characteristic in a degree of that race, which helps confirm the whole assumption. Then the six types of constitutional "states" listed in the diagnostic list, namely, "criminalism, emotional instability, inadequate personality, paranoid personality, pathological lying and sexual psychopathy" would be but variants, caused by processes in various parts of the body, become habitual, and colouring a personality too lacking in inhibitory co-ordination to overcome the personal inferiority-habit.

Personally I am convinced that Dr. Murphy is importantly suggestive to psychiatry when he says in this new book: "There is a primitive type of brain such as that of palæolithic Neanderthal man or that of the existing Australian aborigine, and there is a primitive type of mind, such as those in which imagination is active, the brain centres for it being well developed, while, owing to lack of prefrontal development of the cortex, there is a deficiency in reason, co-ordination and control." Indeed it is likely that this very kind of cortical imbalance, now well established for phyletic neurology, may be the physical basis, congenital or even developmental or acquired, for psychiatric conditions other than defective personality in the narrower sense of the term.

Constitutional personality-defect is a very interesting as well as a most important topic for discussion and classification. One sometimes is surprised, for example, how close it is to what used to be called genius (another topic of promise just now). A striking example has just terminated life in Isadora Duncan. Certainly no man on earth ever saw anything more beautiful in its way than her early stage dancing at its best, and yet her career, viewed as that of a human personality in the more or less standardized social community of Europe and America, has been almost a tragic and dramatic "failure" from the conventional point of view. She was mentally a child in a wonderful woman's body, as her own sister herself has said (*New York Times*) since Isadora's recent death:

"The Duncan family's talent for dancing was first taken up by Elizabeth, who recognized the ability of Isadora and left the stage to train her.

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"The bonds between the sisters were not sufficient, however, to overcome temperamental outbursts, and often during their careers the two have been estranged. These moods, which seem to have ended some time ago, appear to have come principally from the desire of the elder sister to check the outbursts of the younger artist, for, according to Elizabeth Duncan, she had sought to advise Isadora against many escapades.

"'Isadora was, I think, the greatest exponent of the art of dancing,' Elizabeth Duncan said in an interview. 'No person reveals the discrepancy between life and art better than Isadora; in art she achieved a supreme height; in life she was a helpless child.'

"Even when a child, Isadora grasped the slightest suggestion or remark about dancing with the comprehension of genius, but the most prosaic and obvious facts of life found her heedless. She was totally unfitted for the world outside her sphere. She was impracticable about money, friends and her own ambitions, but though she exhibited often the follies of children, her generosity and kindness to others was unbounded!"

In thus estimating her sister's personality-status, Elizabeth Duncan shows exactly the unifying understanding and insight the lack of which in Isadora's mind was the cause of much of the tragic drama of her career: Beauty of vivid imagination, fine neuro-muscular skill, ambition, vigour, industry, but all of these and similar virtues and abilities unco-ordinated by the fine wisdom of truly happy living.

In like manner we now know the outlines of the philosophy or biology of feeblemindedness and its relation to language on one hand and to the brain, pre-palæolithic and modern, on the other (6). But this bit of conquest in the psychiatric field has come from outside psychiatry, from regions that psychiatrists have not seen fit as yet to explore widely and improve to the furtherance of their science.

Much work is being done (notably by Prof. Geo. Draper (7), of New York) on constitutional psychical types in relation to various physical quanta, anatomic, physiologic and chemical. Here is a promising line of research that may mean much sometime or other for our science, as well as for medicine at large. There is no kind of doubt whatever that the faster knowledge of the relations of the mind to the body develops, both cellular and chemical, the more rapid will be the evolution of the real science of psychiatry. In the corresponding mental direction, more or less, C. G. Jung in his *Psychological Types* and many other publications, E. J. Kampf in his *Psycho-pathology*, have greatly aided progress.

Adolf Meyer was the chief American pioneer in this monistic rationalization of psychiatry, and his numerous articles sound the call to the most useful research, in the writer's humble opinion, that psychologists and physicians of our "specialty" can carry on. He has continued the stirring spirit of knowledge as to psycho-physical relations sanctioned by Baruch de Spinoza, and made more explicit by the great Sir William Hamilton and by Hack Tuke, "sometime

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physician in ordinary to the King." At the present time he is engaged in the development of the new genetic method of studying mental disorder—probably the beginning of the end of our nosologic groups now in use.

Several other topics of theoretic or practical importance readily will occur to anyone versed in medical psychology, that might advantageously be urged on most psychiatrists, if one grant that nearly all theory in mental science has practical usefulness some way or other.

For an example, take that common, but very important, curse of man's mind usually called worry, but more technically apprehension or anxiety—the Devil's own revenge on mankind (if he has effected any at all)—worse to countless multitudes than pain or boredom or death itself (8). Worry, of course, is chronic fear, and fear's influence for evil on mind and body alike has no assignable limit. For our purpose worry is closely allied to depression, to melancholy with its frequent suicide and its far more frequent will-to-suicide could it be accomplished. The writer remembers being told by William James, while visiting in a Boston hospital a case of agitated melancholia, that he considered that patient's kind of "mental" suffering the worst that a human mind could experience. For a fine characterization of melancholia still see Henry Maudsley's famous chapter in his *Pathology of Mind*; and see, too, James Thomson's beautiful "City of Dreadful Night," 1874:

"Oh sad Fraternity, do I unfold
Your dolorous mysteries shrouded from of yore?
Nay, be assured; no secret can be told
To any who divined it not before:
None uninitiate by many a presage
Will comprehend the language of the message
Although proclaimed aloud for evermore.

* * * *

"The City is of Night, but not of Sleep;
There sweet sleep is not for the weary brain;
The pitiless hours like years and ages creep,
A night seems termless hell. This dreadful strain
Of thought and consciousness which never ceases,
Or which some moment's stupor but increases,
This, worse than woe, makes wretches there insane.

* * * *

"That City's atmosphere is dark and dense,
Although not many exiles wander there,
With many a potent evil influence,
Each adding poison to the poisoned air;
Infections of unutterable sadness,
Infections of incalculable madness,
Infections of incurable despair."

Surely is the "education" of the psychiatrist unfinished until he has absorbed the tragic pessimistic melancholy, "dark, dark,'

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of Thomson's classic "City of Dreadful Night"; over a thousand lines and every one both beautiful and melancholic.

Every psychiatrist must once or more times have been conscious of the immediate undoubted utter depression and paralysis of energy and of hope, of action and of ambition coming from a personal worry. Such fear, anxiety, wilts down one's power of action, and when continued actually destroys the nerve-cells just as acute fear has been shown to do experimentally by Austin and Sloan, and by others since, in the case of some of the brute-animals. The destructive action of worry and anxiety, whether justified or delusional, whether in reference to the patient's own life-prospects or to those of his children or wife or mother, is very real and emphatic, and consequently worthy of every effort the ward-physician can possibly make to lighten its ravages among his patients. It was a wise octogenarian who on his death-bed said to his assembled children and grandchildren: "I have had a tragic and unhappy life—but almost all of it never happened"!

Herein chiefly lies, it is plain, the scientific sanction of occupational therapy in our hospitals and other institutions: it keeps the individual's mind, at least a few hours daily, off his troubles, whether real or imaginary. Recreation and amusement serve the same important end. Saleeby in England has usefully pointed out that the logical quintessence of all *holiday*, whether by change or travel, by alcohol or drugs, is freedom from care. Medical psychology teaches the psychiatrist this really important sort of science, and it would seem to behove the conscientious psychiatrist to take cognizance thereof, just as it is incumbent on him (or her) to strive untiringly to keep high the stheneuphoric index (*sthenos*, energy; *euphoria*, happiness (9) the energy-joy ratio) of as many of his patients as he (or she) can. Humour and active good nature, continual friendliness where possible, are all-important—the kind of affective atmosphere that the ward-physician's wife tries to keep in her own dining-room at meal-times. Humour goes far!

Music comes in here. Medical psychology has much of importance concerning it to teach and demonstrate to the "average psychiatrist" who has never as yet put his weary intellect to such matters. Arias, themes and melodies, harmonies, get into the minds of the insane as they do into those of us who "go" as less insane; they stay there weeks, perhaps for ever, and day and night serving their useful purpose of taking some of the drabness out of life, yes the very worries out of one's mind, and make the person happier and consequently, often, healthier. Music lends euphoria and hope and contentment and self-respect, and tends to lift the unlearned, the uneducated especially, less amenable than

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are others to arguments, out of their present unhappy selves better than any other therapeutic agent that has been employed.

> ". . . yes, in spite of all,
> Some shape of beauty moves away the pall
> From our dark spirits."

Of late numerous hospital psychiatrists and many a tradition-driven superintendent have been much surprised to find that trial proves how very little restraint and seclusion are really necessary in caring for the insane—just as intelligent parents of young children have learned the essential criminality of beating them as if they held a property-interest in them as they do in the rugs on the floor. The theory of education teaches both of these stronger-than-the-others masters that force is not the ideal mode of control, and, what is more, that it is very largely unnecessary.

Work-psychology is another scientific field none too familiar to State-hospital superintendents and to commissions in lunacy and in mental defect. The therapeutic principles of properly adapted work as distinct—very distinct—from noxious drudgery and toil, are of importance in every institution where the insane are cared for, the morons, the delinquent and the incapacitated by sensory or motor defects. The tremendous importance of occupational therapy has not yet—not even yet—been realized as it must and will be realized shortly. Nothing whatever else can take its place in making "inmates" of the various classes happy, contented and well. Work is almost the greatest of man's blessings, dependable, and full of a satisfaction better than joy. If only people could learn that drudgery is but a minor, yet necessary, part of the *properly adapted* work of the world, how soon vocational guidance would fit each worker into his own proper endeavour in which he could be more content because he would work instead of drudge!

Personal hygiene, product of physiology and of psychology alike, might be better known to alienists, etc., than now it seems to be known. One occasionally sees the patients in a hospital not having the benefit of quite the same perfection of personal hygiene that the affectionate and really educated physician provides or would provide for his own children. Those of us who know what an asylum was a century ago, sixty-six years ago, twenty years ago, realize how much has been accomplished; but it is the pictures of the insane in the sixteenth century, say, and before, that tell us tragically what mental derangement used to mean to its victim and to society. Too much idleness in the wards, or to say it better,

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too much time spent in idleness in the wards, indoors, is perhaps the chief present lack in the way of personal hygiene in the highest grade of our hospitals. Every possible patient should be busy out of doors every possible hour—summer, autumn, winter and spring.

There are only 3,211 avowed psychiatrists (so styled by themselves, 1926) in the whole of the United States, and every one of these thirty-two hundred, as part of his duty to society, should be a public instructor and propagandist in the advancement of the knowledge of *mental hygiene*. This duty is all the plainer and less escapable because of its very great effectiveness in the prevention of mental derangements proper (psychosis and psychoneurosis), borderline conditions (such as domestic discord, childhood delinquency, etc.), and general needless personal unhappiness and life dissatisfaction. Writing and talking on the subject as often as is expedient by the psychiatrists of the world would go far toward making the next generation much freer than the present from one of man's chief sources of unhappiness, and of unsuccess in many vital directions. No one can speak of this important topic so convincingly as the psychiatrist, especially if he be somewhat familiar with juvenile conditions. He sees the end-results, and so feels in his very soul how much misery mental hygiene will save the world of men.

The psychology of *habit* is an important thing for the alienist to know, and he is not often apt to learn it under present conditions of unfamiliarity between these two sisters of science already noted. If the all-controlling force of habit in behaviour and in all sorts of mental action be ignored, the psychiatrist will fail to comprehend the formation of very many things in his patient's case. He will misjudge some things badly because misled. For example, præcoxes, etc., get accustomed to hallucinations, especially "voices," and notice them, "hear" them no more than one hears the ticking of a familiar clock or the ringing of an all-too-familiar alarm-bell in the morning. Often these patients will conscientiously deny present hallucinating purely because hallucinations have ceased to surprise, interest or even impress their attention. Their common unpleasantness makes this repression of knowledge still easier than the great law of habit makes it.

New refinements of *hæmatology* may sometime prove of diagnostic (and prognostic?) value to neuropsychiatry. At present it is found by process of iso-agglutination (discovered in 1901 by Lundstein) that there are changes in the psychotic's blood or in that of anyone susceptible to psychosis. See the article by Proscher and Arkush (10).

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"Lastly," as the preachers used to say, one of the ideal recreations or avocations of the psychiatrist is the history of philosophy, and it is a subject of learning easily to be had from a few books—as few or as many as one pleases. After such a course of real, that is, attentive, thoughful reading, the neuro-psychiatrist feels better oriented with his work. But, more important, he appreciates it as something of surpassing value in itself, a slow and laboured polemic, a give and take between thoughtful men back nearly three thousand years, into the age of bronze implements and weapons. And then for a bit of prehistoric and pre-palæolithic anthropology and psychology and sociology—fit antidotes, when one gets acclimated to them, to the countless annoyances of the crowded wards of the "deranged."

From the economic, family-support point of view psychiatrists undoubtedly are in an increasingly strong position. They are not, however, taking advantage of it. The school-teachers of New York City recently have taken advantage of a very much less obvious industrial strength to increase their salaries. With school-boards and lunacy commissions, and numerous hygiene committees and commissions of criminology, and courts and life-insurance directors and the great employers of labour all urging more and more frequently and insistently that psychiatrists could very materially help them in their work of guiding personnel, psychiatry is likely to become before long a much better-paid branch of medicine. Then, when the new psychiatrists, at medical graduation, have at least an interest in and a smattering of psychology, perhaps the "mad doctors" will more adequately evaluate their work in various ways, and realize that they are wholly and uniquely indispensable in our modern civilization, for ever in search of various forms of betterment. What a field (for a conspicuous instance) for very numerous psychiatrists who know some normal educational psychology exists in the elementary school-systems everywhere, to guide the early opinions of those pupils who tend to become "psychopaths" or even more peculiar schizoids—sometimes quite needlessly! Failing to *cure* psychopathy and most insanity, is it not high time that we turned our attention more generally and more intelligently toward the *prevention* of these grievious conditions so momentous to all concerned, individuals and State alike?

Such are some of the scientific relations of psychiatry that tend to make our special art-science interesting, and help us to appreciate better, in moments of boredom or of self-abasement, how vital and full of the philosophy of life our branch of medicine may be.

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Like the famous "Sheriff of Nottingham," the writer urges that this critical material be accepted in the convivial, yet perfectly legal, spirit in which it is offered. Many of the mentally deranged are among the most unhappy and unfortunate of our fellow men, and every possible suggestion that might lead to their amelioration is not unworthy the tolerant notice of their physicians. Science, like art, is long, far longer than life, but as time passes, science, goddess of light in a wonderful world full of things still dark, especially things of mind, has much to teach us for the common benefit of our patients. To suggest merely some directions in which we might possibly invite Scientia to lend her blessing has been the purpose of this humble offering.

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Type Psychology: Its Importance in Mental Hospital Practice.

By J. Ernest Nicole, L.M.S.S.A., Senior Assistant Medical Officer, Lancashire County Mental Hospital, Winwick.

When a patient is admitted to a mental hospital his condition is investigated from a number of angles. His physical state is ascertained, including the condition of his blood and his cerebro-spinal fluid; he may be found to exhibit such and such a neurological symptom. His mental state is probed into, his intelligence estimated, his emotional reactions noted, his complexes even may be progressively dug up. As a crowning summit to this edifice of knowledge a label is at last attached to the case, and a diagnosis arrived at.

True it may be that because a case is, say, one of melancholia, he will therefore need certain general lines of treatment, and may benefit by particular surroundings, conditions and methods. But we must always remember that the presence of symptoms of

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melancholia does not by any means establish the kind of individual the patient really is. Very different types of character may be found in melancholics; if we are to influence the patient satisfactorily, it will be wise for us to pay some attention to the manner of man he may normally be. In other words, we should think of our patients not only as belonging to various groups of pathological conditions, but also as representing some one or other class of human personalities; such knowledge, when used in our handling of them, will assist us to appreciate, too, what they may be expected to become once a cure has been effected, what state of normality it is to which we would assist them to return.

This, however, necessitates a descriptive classification of possible normal types—a classification to which an individual can be referred in order to arrive at a definite view concerning his character. And if the study of types be not given sufficient attention, there are grave risks of patients being too much considered as alike just because they belong to the one *clinical* group.

Freudian interpretation helps to show the individual experiences and subsequent repressions, complexes, etc., that may account for a mental breakdown; but it leaves untouched those fundamental modes of reacting, those probably inherited methods of adaptation that distinguish one person from another.

Types have, of course, been studied by many writers. We might mention Baldwin's sensory and motor types, Bain and Shand's work on such factors as instincts, sentiments and emotions, Perez's emphasis on kinds of action (slow, quick, vehement), or Malapert and Fouillée's research on intellect. Levy classifies types according to the blending or non-blending of three functions—feeling, intellect and will. Meumann does so according as to whether the will is strong or weak, transient or lasting, narrow or broad, immediate or deferred. Rosanoff has a semi-pathological division into anti-social, cyclothymic, autistic and epileptic; Kretschmer recognizes two groups—cyclothymic and schizothymic, whereas Stein and Spranger classify types according to the individual's basis of evaluation—economic, theoretical, artistic, social, political or religious.

The method of classifying types that we will here describe will be Jung's. It is perhaps the most fruitful, the most easily applied to normal as well as abnormal temperaments, and it allows of sufficient subdivision to be of more than limited use.

Jung's Types.

Many years ago Jung divided human types of character into two broad classes—the Introverts and the Extroverts. The

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former were recognized by their subjective attitude, their tendency to withdraw from the world of fact and turn their gaze within, to the world of fancy; emphasis was laid on those mental phenomena that arose from the deeper, hidden springs of human thought rather than on those consequent upon the intruding stimuli from the outside world. The extroverts, on the other hand, comprised people who were anything but introspective, who went "out of themselves" to meet the world of reality, who to some extent identified themselves with that world, and who valued all that was external to them because it *was* part of the real world and afforded multiple and varied experiences.

This division into two main groups was by no means new, and was reminiscent of the Apollonians and Dionysians of Nietzsche, Prometheus and Epimetheus of Goethe, and the more-impassioned and less-impassioned of Jordan. The tough-minded and the tender-minded of James and the prolific and the devouring of Blake correspond in many ways to the extroverts and the introverts, much as do also the "masculine" and "feminine" of Weininger.

At first the introverts were described as consisting mainly of the thinking type of people, whereas emotion was the decisive factor in the extroverts. Later, however, Jung came to realize that even an introvert may feel intensely, just as an extrovert may be almost entirely guided by reason; and when it further became clear that real introverts only occurred rarely and were in a marked minority, it was soon found that such a classification required considerable modification and elaboration before it could become of any practical value.

And so Jung came to describe the characters of introversion and extroversion as dependent, not upon any predominance of a particular mental function, such as feeling or thinking, but entirely upon the presence of a definite attitude towards life. This attitude might be, on the one hand, introspective, subjective and even mystical, or, on the other hand, objective and matter-of-fact. A tendency to *both* these attitudes he believes to be present in everybody, but there is always one attitude that assumes supremacy over the other. This supremacy is but slight in the well-balanced individual, but is much more marked in the extreme types; and when it is overwhelming, so that the whole response of the individual is entirely subservient to one attitude, then the personality runs the risk of becoming disrupted between a pair of opposites, between the dominant attitude and the dominated attitude that is struggling for some expression at all cost.

In health these opposing attitudes have to be to some extent

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unified, and the search for such a harmonizing of mutually antagonistic trends has proved a source of constant interest in mystical philosophies, especially in the East. The hymns of the Rig-Veda introduce this principle of unification as Ṛta, the goddess of harmonious purpose, generally invoked with her two guardians, Mitra and Varuṇa, representing day and night, light and darkness. This is further elaborated in the Upaniṣads into the concept of Karma—a concept comparable to Tao in China, or to the " Reason " of the Stoics. A pictured representation of the reunion of pairs of opposites is to be found in the Old Testament (Isaiah) in the pairing off of symbolical animals.

So much for the question of *attitude*, to which we will have occasion to refer again later. The next step is to recognize in every individual a dominating *function*, a form of mental adaptation that may be one of four—THINKING, FEELING, INTUITION or SENSATION. Here, again, we must remember that all four functions are found in everybody, but one of them dominates the personality, the others assuming a secondary *rôle*. Thus we have thinking, feeling, intuitive and sensational types, each one of which may be either introverted or extroverted. Feeling and thinking are higher functions, more recent in development and essential to " rational " conduct. For conduct to be rational it must be based on discrimination and weighing up, on an ascribing of values to the various items under consideration; and it is because such evaluation can be based on feeling as well as on thinking that we have these two " rational " types. Intuition and sensation on the other hand are lower, less evolved and less clearly conscious functions. Intuition might be compared to a not clearly realized guess-work form of thinking; being less adapted, it may assume mystical forms, and in the Hindu religions is exalted into the essential factor of religious experience (Radhakrishnan). Sensation is a primitive form of feeling into which enter none of the higher complex emotions characterizing a rational function; it is, rather, feeling brought down to the level of mere sensing. In contrast to thinking and feeling as " rational " functions, intuition and sensation may be regarded as " empirical " functions (van der Hoop).

Nevertheless, thinking and feeling are not to be considered merely as sensation and intuition on a higher plane—that is, as a mere integration; they are not just more complicated sensation and more complicated intuition. They are, on the contrary, to be regarded as " emergents " resulting from a process of evolution; they have " emerged " (Alexander) from lower functions, and possess in themselves new qualities and characteristics not present in

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those functions from which they have "emerged." (This view is not always admitted; see C. D. Broad.)

An important point to be grasped at this stage is that whichever function is the leading one, its opposite will be in some degree repressed. Thus in a thinking type feeling is repressed, and in a sensational type intuition is; and the same thing holds good as regards attitude. Normally the repressed function and the repressed attitude influence the conscious from the unconscious, and ensure a certain degree of compensation. The behaviour of an individual may thus be regarded as consisting of (*a*) conduct guided by the dominant function, in keeping with the individual's general and apparent character, and (*b*) conduct that emanates from the repressed and compensatory unconscious function, not in keeping with the evident character, but, on the contrary, in contrast to it, rather impulsive, generally spontaneous and uncontrolled, and often as much a source of surprise to the individual himself as to the onlookers; such conduct, too, is frequently—because it comes from the unconscious—more primitive and unadapted.

Further, if the conscious personality be, say, of the extroverted feeling type, then the unconscious will not only be of a thinking kind, but will also be introverted. That is to say, in the unconscious are found both *function* and *attitude* that are in direct opposition to the function and attitude of consciousness. If the antithesis between conscious and unconscious becomes too extreme, then neurosis may ensue and the unconscious will burst forth in open opposition to the conscious, perhaps for a time completely overpowering it.

The Extrovert.

In the extroverted attitude the decisive factor comes from without, and the individual lays little or no store on subjectivity; he is at one with his surroundings, he is fashioned by the world in which he lives, and his responses to the environment are primarily of the nature of adaptation.

When a tendency to neurosis is evinced, there comes first an exaggeration of extroversion; then strong compensatory symptoms from the unconscious make their appearance. These may assume archaic and symbolic forms, and are such as would indicate an attempt to bring the conscious outlook back to introversion; they stress the personal factor and are markedly egoistic. This egoism, being primitive, frequently verges on the wicked and brutal. Finally, all attempts at compensation having failed, the unconscious comes out more fully, clashes with the conscious, and dissociation may result.

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A. *Extrovert thinking type.*—This is found more frequently in men than in women. Thought and reason are the guiding principles of adaptation, and the individual is usually a staunch believer in formulæ. We recognize in him the man of principles who has a carefully reasoned code of conduct, and for whom there is no situation that cannot be met by means that have all been thought out beforehand in the abstract. Such a man is often held up by his acquaintances as a model of integrity and uprightness on account of his being so evidently "reasonable," but he nevertheless makes his own home a miserable one. His principles are so rigid that he has no tolerance, and all have to do his bidding; he is unable—because he has repressed feeling—to attain any degree of emotional attunement with his intimates, and no home is kept together by reason only. His conduct is too systematized and his attitude too impersonal, his feelings are slight, and rather than being spontaneous they arise merely because the situation appears—that is, is thought—to justify such an expression of emotion.

Any compensation from the unconscious appears as introverted feeling, ego-centric emotions that often lead to unreasonable suspicions and prejudices, little outbursts of selfishness that seem to the superficial observer so ill in accord with his outward personality.

B. *Extrovert feeling type.*—Here the individual—generally a woman—is in such emotional contact with the world that she responds through feeling. All the evaluating and judging that she does (being a "rational" type) are based on her feelings, and not, as in the previous type, on thinking. That there is a "logic of feeling" as well as a "logic of reasoning" is becoming more clearly realized. To her the outer world is so important and has such a hold over her, that her feelings are apt to conform to certain patterns laid down for her by herd standards; thus the Victorian maiden who fell in love did so heartily enough, yet it was more often than not with the young man who was "suitable," and was pointed out as agreeing with the general standards of desirability. Thinking as a function is not absent, but follows far behind in the wake of feeling. As a lady of this type once remarked on being asked to accept the reasonableness of a particular line of thought: "But I can't think what I don't feel!"

If the attitude becomes extreme, then compensations will appear as usual. These are generally impulsive thoughts, not infrequently calculated to belittle the object of emotional interest; they are judgments of the nothing-but-this or nothing-but-that variety. An example of such compensatory and non-emotional criticisms would be the impulsive, tactless and offensive opinions offered by

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people whose usual aim is to keep in good sentimental relation with those around them.

These, then, are the two "rational" extroverted types. They are judging types, they evaluate, and they are more individualistic than those characters to be next described, who respond to outer or inner stimuli without such an attempt at moral evaluation.

c. *Extrovert intuitive type.*—This type occurs in both men and women. Intuition is the guide for focussing the gaze. Discrimination and judgment do occur, but not in order to determine conduct; they are merely means to justify to others what has already been adopted spontaneously. Intuition appears as a kind of primitive and instinctive thinking; it does not obey the laws of ordinary logic, and the intuitive character is urged towards the adoption of any and every possibility as a definite probability. Such a type rather seeks stimuli that might lead to his reacting to them in the direction of an instinctive goal. He, particularly, would fit in with such psychology as Thurston's attempts at showing how certain stimuli only are attended to on account of their leading to already desired action. Such an intuitive will see possibilities far in advance of the thinking type, who plods along by dry reasoning. He will be for ever running after wonderful schemes, and day by day he will seem to have reached the "turning-point" in his career, but just as he will run wild over one possibility to-day, so will he to-morrow abandon it for another. Some of the national characters of the Irish are due to intuition. The intuitive makes a good speculator, agent, company promoter, and has the enthusiasm to be a great leader—for a while, but he has no staying power; any success he may achieve is due to "seeing in a flash" what reason cannot yet perceive, and if he does not happen to embrace a career where change, ambition and ingenuity have ample scope he will fail miserably.

In times of stress or illness, when compensations from the unconscious are particularly liable to become prominent, they will, of course, reveal introverted sensation. The individual will have for a time to leave go of his world of outer and objective possibilities for that of inner and subjective sensation; in fact he tends to become hypochondriacal.

d. *Extrovert sensational type.*—Here we have a type, present mostly in men, that accounts well for the country squire of the last century; it is a type that is less marked now, but is still far from extinct; we might almost call it the conventional type. He is swayed, and adapts himself, by his sensations, and the decisive factors for him are those events that procure such sensations; for instance a day's hunting or shooting, a good dinner, a glass of port

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or a cigar. All the little happenings that to others are just unessential trimmings, to him loom large and important. He is eminently sociable, but, owing to his lack of emotion, his attachments are never deep, and he flirts rather than loves. Here we see the object obtaining a sensuous hold of the subject (epicureanism). Objects are really held in poor esteem nevertheless; their value lies not in themselves, but only in their capacity for arousing sensation. These sensationals are realists; they do not judge and evaluate, and are unable to fashion for themselves a code of moral conduct. As a result their whole ethics consist of "what is done" and "what is not done," and convention becomes the keynote to morality. They obey the commandments that others do, especially the eleventh—"Thou shalt not be found out."

If the type tends to become extreme, then introverted intuition becomes manifest. There is a spontaneous appearance of wild conjectures, jealousies, phobias and compulsive symptoms of a moral character, with self-reproach, self-belittling and other ego-centric trends.

We have now considered the two irrational types that are "empirical" or, as they have also been named, "perceptive." They may be reasonable, but in them it is quite evident that judgment cannot keep pace with the other functions; it lags behind, and is never a decisive factor. Their conduct is more impulsive. As Ribot and Varendonck—also Janet—have pointed out, consciousness may be regarded as a substitute for motility; therefore with a less developed and less conscious function as the leading one (sensation or intuition) reflection will be at a minimum and impulsive conduct more marked.

The Introvert.

The attitude in introversion is much more difficult to understand, partly because the introvert is too indifferent to other people to explain his mental processes, largely also because there are fewer introverts than extroverts. The introvert appears cold, aloof, independent and ego-centric; he is governed by subjective values. Those values themselves depend on certain general inherited characteristics, racial legacies that Jung regards as a "collective" or "impersonal" unconscious, somewhat comparable to inherited engrams. This unconscious, therefore, consists of material that has never been conscious, and so stands in contrast to the "personal" unconscious that results from repression and has been particularly stressed by Freud.

Cognition is not merely objective; it is also subjectively conditioned, and that by a factor that is of primary importance in the

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introvert. This factor has been defined as "that psychological reaction which, when merged with the effect of the object, leads to a new psychological fact." It amounts to this—that in the introvert an experience only attains value after its immediate effects have become associated with material from the collective unconscious. The subjective value of a percept is thus its power of linking up with primordial images. These primordial images are "feeling-thoughts," vague and general symbols of concepts that cannot be expressed rationally owing to their having never come under the moulding influence of education. Such images—or "archetypes"—because they arise from the collective unconscious, that legacy from the past of the race to all the race, are possessed of a kind of universal validity and, in the introvert, have a high compelling value.

These archetypes may affect consciousness by leading to vague trends and tendencies that are ill-realized by their owner; as a result they are usually projected and falsely attributed to the object. If their expression be more direct, then it becomes symbolic. It becomes symbolic not just because it comes from the unconscious (Freud), but because it is archaic and belongs to a primitive level of thought (compare Rivers' "release of a protopathic level"). Since the primordial images and their resulting expressions possess universal validity, they may act as links between members of a group. They are responded to by all, even if unconsciously so. They probably form the basis of Levy Bruhl's "participation mystique."

The introvert is regarded by the extrovert as selfish and unresponsive (the misautic type of Weininger); but this is simply because he does not express himself in the same way. In order to give himself up the better to his subjective attitude the introvert distrusts and resents direct interference from the objective world, and he erects a system of defences. His systems of protection against the tyranny of reality have been interpreted as a will-to-power (Nietzsche) or masculine protest (Adler). Even the introvert himself tries to explain himself on an objective plane, by looking outward instead of inward; this is due to his very education, which has so stressed the importance of the objective and so erected it as the sole guide to truth that there is little room left for any conscious appreciation of the subjective factor.

In order for these subjective factors from the collective unconscious to lead to an attitude of introversion, all tendencies towards extroversion must first be repressed. The repression of extroversion may lead to compensations; these will be objective in direction; they will tend to bring the subject more under the

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influence of the very outer objects he tries to belittle. The more he attempts to free himself from outside influences the more he becomes enslaved by them. This he may ascribe to "Fate," without realizing it to be really the result of a compensatory factor within himself. For instance it is not unusual to see a man striving after a subjectively acquired ideal of moral superiority, and attempting to free himself from doubtful ties and attachments; all the time, however, his compensatory factor is surely urging him towards his environment, and he ultimately succumbs to inferior relationships. Similarly a desire and life-long struggle to dominate and rule ends in a pitiable clamour for being loved. The repressed unconscious influence may in some cases lead to a belief in magic or to compulsive acts of a magical nature.

A. *Introvert thinking type.*—This is more common amongst men. There is a slow subjective growth of a whole system of ideas, and the material world is only sought in support of these ideas. Outer facts in themselves are valueless; theories are manufactured wholesale and reign supreme. In this connection Darwin and Kant might be contrasted. Darwin, being an extrovert thinking type, laid all emphasis on the facts he observed, and from them he developed theories. Kant, on the other hand, was an introvert thinker; he built up theories out of his wealth of subjective material, and invoked observation of facts merely to support his theories. In this type ideas are all-important, as they were for Plato and, later, Schopenhauer and Hegel. These subjective ideas are very powerful, because they link up with the primitive source of human thought. They often tend to mysticism and imagery, and to the analysis of the unknowable and transcendental. This type thinks intensively, not extensively, develops a negative attitude towards the object itself, and is cold, arbitrary, unpractical, never seeks the approval of others, and often tends to be exploited.

When the type becomes extreme, ideas are more profound, but also more inexpressible as they lose contact with reality and assume a more magical turn. Self-defence against the object is evidenced as negativism; but later extroverted feeling will make its appearance, thereby increasing the hold of the object upon the subject.

B. *Introvert feeling type.*—Feeling is the guiding function, just as in the corresponding extrovert type, but it is so deep-seated and subjective that outwardly the individual—generally a woman—appears cold and critical. Such feeling always depreciates the object. It arises from an object, but it fully develops only after association with a deep personal factor derived from the collective unconscious. The emotion or feeling itself is thus what is valued, no emphasis whatever being laid on the object originally causing

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it. And so, the outer situation meaning little to her, the individual does not feel bound to express her emotions. If they are expressed at all, it will probably be as poetry of a mystical form, or as a secret religiosity.

Compensations, when evidenced, occur as uncontrolled trends towards unscrupulousness, ambitions, cruelty, scheming, etc. (extroverted thinking).

C. *Introvert intuitive type.*—This type is found in both men and women, and evinces an inward directed intuition. Perhaps Blake belonged to this group. There is a constant search for inner possibilities. Unconscious images appear, are raised to an independent status, and then are neglected, new ones taking their place. There is a chase from image to image, comparable to the extrovert intuitive's bursts of enthusiasm over mere possibilities. Inspiration is the keynote to this character, and amongst people of this type we find prophets, seers and mystics, exhibiting many many phantasies culled from ancestral inheritance.

Compensations, when well marked, will lead, through extroverted sensation, to unrestraint, and also to a resumption of supremacy on the part of the object.

D. *Introvert sensational type.*—This type—more prevalent amongst men—is guided by sensation. But here again, as with feeling in the feeling type, the sensation owes not its importance to the object causing it; rather does it owe it to the subjective factor that has become " released " in the form of images and linked with it. The thing that matters to this type is not *what* they see, but *how it appears to them.* What stirs an artist is not the conglomeration of items that make up a landscape; it is the primordial images that are stirred within him by the effect of the landscape as a whole. Owing to this subjective factor there is a tendency to an illusory conception of reality, with a further tendency to personify (due to the archaic unconscious) and to the creation of deities and demons.

Compensations may occur through extroverted intuition, leading to impractical and impulsive reachings after the illusory. If tinged with much primitiveness in its expression, such intuition is often directed towards the gloomy, dangerous and evil possibilities, and may give rise to a compulsion neurosis. Some of the " rites to avert evil " found here may be the basis for traits that have been described as typical of the anal-erotic character.

Additional Types.

Such, then, are the four main types of extroverts and the four main types of introverts. A further subdivision may, however, be

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obtained. We have already seen that whenever a particular function is dominant, its direct opposite is repressed. But it often occurs that one of the functions from the other group is also well developed, and it may act as an auxiliary to the dominant function. Thus a rational type will have one of the empirical functions as auxiliary, and *vice versâ*. For instance, a thinking type will repress feeling, and will have for auxiliary function either (*a*) intuition or (*b*) sensation. This would then lead us to the recognition of sixteen types instead of the eight we have described.

General Considerations.

One of the difficulties of such type psychology is that so much of it depends on individual interpretation. This, in itself, however, may help us to realize a fact that is usually sadly overlooked. If it is true that there are such different types of mentality, types with different attitudes and exhibiting different dominant functions, then it follows that there may be as many psychological systems as there are types. In other words, the fact that we find such different schools of thought as are exemplified by structuralists, functionalists, self-psychologists, behaviourists, etc., may well be due to the likelihood of these psychologists being of different types. Each type tends to evolve a psychology that appears false, and *is* false, for other types, but nevertheless adequately explains his own type. Therefore the discrepancies between different schools of thought point, not to a confusion so much as to possible progress. The psychology of the future may have to accept apparent antinomies of thought as merely differences of type expressions, and be prepared to accept them all as different yet equally true solutions of its fundamental problems. There is, of course, a tendency for national traits to be reflected in the philosophies of different countries, especially as the prevalent types of one nation are not the same as those of another. Thus on the whole the English are more particularly sensationals, the French feeling types, the Germans thinking types and the American intuitives; the West is extroverted where the East is introverted.

Such a description of types as here outlined is purely psychological, but perhaps some day it will link up with other modes of approach. It has already been suggested that introversion and extroversion (as used by Jung, not as sometimes applied in psychiatry) might correspond to vagotonia and sympatheticotonia. The work of Kempf on the autonomic personalities is helpfully suggestive—provided too much stress be not laid on his ethical evaluations. The ductless glands in relation to types have been investigated

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by Berman, Jelliffe and others; it might appear that the supra-renal function regulates the attitude type, whereas the pituitary is responsible for the function type, the post-pituitary character being intuitive or thinking and the anterior pituitary one being sensational or feeling.

More difficult still than mere description is going to be the application of type psychology to psychiatric practice; indeed, not only to the practice of psychiatry, but more generally still to the practice of communal life. But before this is possible several steps have yet to be taken in the study of types.

(1) Better and more skilled determination of an individual's type. Here it must be remembered that many of the symptoms of insanity may be the expression of just the attitude and function that are opposed to the normal personality.

(2) Ascertaining the relationships that are likely to occur between one type and another when they are brought in contact. And this may be different in the sane and the insane.

(3) Noting the results of such association and relationships on character, not forgetting the possibility of a change of type occurring.

(4) Investigating the conditioning of the occurrence of relationships, finding those factors that assist and those that hinder.

(5) Assessing the value of the results of such relationships. The evaluation need not be moral so much as psychological. It is often better to have a well-balanced personality that may not reach ethereal heights of morality than to have such a strictly moral outlook as might predispose to a psychosis from insoluble conflicts.

(6) Lastly—and this is where the use of such type psychology will be found—regulating the occurrence or non-occurrence of these possible relationships. For instance, by bringing certain patients together and separating others, by placing certain patients under a particular charge-nurse, by carefully picking staff for acting as " special " on a case, etc.

Not much definite guidance can be here given in this direction —it would be presumptuous to do so when such psychology is as yet so little part of routine psychiatric equipment—and only a few suggestions can be attempted.

First of all the study of types requires considerable tact, patience, with a sympathetic desire to appreciate in others what may appear odd or silly to us. A serious attempt must be made at eliminating personal bias in order to understand modes of reactions that may be in direct contrast to those prevailing in ourselves. Some day we may attain, as other have done before us, much worldly wisdom, a kindly and deep understanding of human nature, and just the right way of achieving the results we desire in our handling of our

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fellow creatures, sane or insane. Such a knowledge will be largely empirically gained, and it will have to be correlated with some system of type psychology. We must try to describe the methods we have found by experience to be successful in dealing with people of all kinds. Indeed it will be up to those of us who have reached such understanding to impart it to others less fortunate, so that they need not be left to cover for themselves the same ground over and over again in the hope that they, too, may some day be able to lead and influence the minds of those with whom they come in contact. It will be up to us to correlate our methods with our theories, and unite in the producing of some practical guide to the whys and wherefores of the influencing of one type by another. Instead of demonstrating results, let us analyse and describe how we achieve them.

As regards the individual analysis of a case, Jung lays much stress on the physician's duty towards re-educating the patient. He raises an important point in connection with the actual analysis. If the repressed material be brought to light without previous preparation, then the personality of the patient might find it difficult to withstand the shock. So at first the personality should be strengthened by gradually educating and developing the auxiliary function. For instance, in an intuitive type with feeling as the auxiliary function, his emotions should be developed, appealed to and given more prominence, before attempting a deep analysis.

Again, patients should be treated according to their types. We may find that a sympathetic attitude is the best one to cultivate, or we may think an authoritative manner is the best. Again, a humorous way may get us most easily over some of the difficulties of handling patients, or else we may believe that reasoning with our cases is the most generally successful. But let us beware lest we become too imbued with the one method only. Let us not cultivate exclusively the one manner best calculated to give us a high percentage of results, but rather let us utilize the several manners suited to the several types we meet.

In general it may be said that the irrational types are all the more difficult to treat, that in them there can be little permanent judgment or purpose; they have to be appealed to all the time and are too much opportunists. Sometimes a type may change—at least as regards attitude (introversion or extroversion)—not infrequently as a result of close association with a similar attitude type with the same dominant function. Treatment is in any case best undertaken by either of the rational types. The feeling extrovert with intuition as an auxiliary function, for instance, makes a better suggestionist than any of the other types.

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We might now touch briefly upon an aspect of mental hospital work for which the junior psychiatrist receives little or no training; I mean the handling of, and general dealing with the staff. Nor can he have much assistance in this respect. He must train himself in this part of his work in preparation for the time when long service and higher rank will make it necessary for him to have a certain proficiency in this direction. Of course experience will be his main teacher, but invaluable help and guidance will be afforded him by a clear understanding of type reactions. It is urgent that one should have the necessary influence over the nurses, and amongst a large staff all types of characters may be encountered; any association with them for a length of time should make possible the recognition of these types. Therefore the necessity for many methods of moulding and directing the staff's efforts will become obvious. It is, for instance, of little use reasoning with a sensational type of nurse, or appealing to the feelings of a thinking type. The mere *possibility* of a certain event happening will hold little sway over a thinking type—it is reasonable *probability* that counts with him or her; but even the most improbable possibility, provided it be of an appealing (or appalling) kind, will start an intuitive racing after or away from it as the case may be.

The study of types may be helpful in the forecasting of the smoothness or otherwise with which certain members of the staff will work together. We might instance the unlikelihood of any lasting relationship between the rational and the empirical types. They may come together for a while owing to a common situation (the compelling force of which will soon wear off for the empirical type), or on the grounds of a common goal, but what is a permanent aim for a rational is likely to be only a temporary one for an empirical.

As we have seen before, certain types are more suited to ordering than obeying. Thus an intuitive who makes a bad servant may make a good master, especially a good superior. He turns his gaze in ever new directions; he instils keenness into others for a certain kind of work. True he soon tires and looks elsewhere, but others under him are left to carry on the work whilst he brings his enthusiasm to bear upon some other subject or department, activating everything there. It is probable that the intuitive may work for good or evil. The intuitive medical officer doubtless causes many an anxious moment to his superintendent. One day he demands pounds worth of a new drug that is going to cure half the inmates; next week the drug is no good, but he has just discovered the one factor in the diet that is responsible for the fact that most of the patients die before they reach the age of a hundred! He requires to be toned down and have the brakes applied; on

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the other hand, let it not be forgotten that he may see most useful methods and arrive at valuable conclusions long before the slower thinking mind even glimpses them.

Lastly, one word about the introvert. Introverts are ill-suited to mental work. A nurse that after her months of probation is discovered to be an introvert in any marked degree should certainly be dispensed with. She cannot establish contact with her surroundings. Because she appears callous and aloof, she will not get on with her patients, being always suspected by them of ill-will, or accused of wrong-doing. She will not work harmoniously with her colleagues, will quarrel with them, and perhaps be exploited by them. She will be liable to a mental breakdown herself; her subjective life being so stressed already, she will be very susceptible towards her patients' tendencies to phantasy formation; she may easily drift into a neurosis with hallucinations and compulsions.

Enough has been said to outline the importance of the subject, and though the above remarks cannot claim to bring anything new or original to bear on the matter, they will not have been in vain if they assist anyone in mental hospitals to remember the need for a clearer understanding of types, and the possible influence of such knowledge upon the every-day work of the institution.

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*The Formulation of Psychiatric Cases.** By Angus MacNiven, M.B., Ch.B., D.P.M., Assistant Physician, Royal Edinburgh Mental Hospital.

"The disorders of the psycho-biologic adaptive processes must be viewed as the resultants of a group of facts and factors; and, by accepting this view, we get on a natural working basis for our understanding and our dealings with the case." —Adolf Meyer.

In order to obtain a complete account of these facts and factors from every available source, and to get the co-operation on behalf of the patient, it is necessary that the relatives, the physician and the nurse of the patient be presented with the data in a comprehensive form.

As each of these groups varies in intelligence, understanding of psychological matters and point of observation, and differs in what is expected of it, it is essential that the mode of presentation takes these variations into account. With this idea of individual presentation, a case has been prepared as it would be

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discussed with the nurse, the family physician, the relatives and the patient.

This case illustrates the various problems which each psychiatric case might present to the physician.

In considering the mental illness as a reaction of the individual to a situation rather than as a disease entity, it is important that we have accurate histories, so that, when these facts are considered along with the patient's personality, we can have some idea of how the illness came about. We can then consider what factors in the situation played the important *rôle*, and how to modify matters so that the patient can readjust himself once more. To bring this about we have not only to deal with the individual himself, but with his social setting, therefore it is important to consider the bearing of the family situation on the problem.

We are aided in this by the social service worker, whose help we should make use of in giving the patient a fresh start after his recovery.

In treating a case of mental illness, the physician must gain the co-operation of the patient's relatives. Not infrequently, the friends express definite ideas as to the cause of the patient's illness, and the manner in which the treatment should be carried out. To correct erroneous ideas without antagonizing the relatives may at times prove very difficult.

The conception of a mental illness is very difficult for the ordinary person to grasp. To explain that the patient's symptoms need not have any demonstrable physical basis is not always easy, even when one is dealing with well-educated people. The natural desire to find some cause for the changes in the patient's personality leads them to believe that the symptoms must be caused by "something on the brain," or by "poison in his system." Not infrequently they have been encouraged in these ideas by the physician who treated the case before it came to the psychiatrist.

The attitude of the patient's relatives to the mental hospital is often one of suspicion and distrust, and the psychiatrist has to dispel these and win their confidence and co-operation. They wish to know what caused the patient's illness, and how he is to be cured. The physician must explain that a mental illness does not result from the operation of one specific factor, but that the breakdown is closely connected with the patient's personality and his difficulties in life; and that treatment must be directed towards correcting the causes of these difficulties. In explaining to the friends the mode of approach to the case, the physician should make them understand why it should be dealt with in the way he advises, and invite them to co-operate with him Unless such an

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explanation is given, the relatives cannot be expected to aid the physician, and they may even prove a hindrance in the treatment of the case. It is often difficult for them to understand, for instance, why the patient cannot be allowed to see visitors, or why he should have to remain in hospital when, to them, he appears to be restored to health. When the patient is discharged his future well-being is often dependent upon the attitude of those with whom he is most intimately in contact.

The physician must make clear to the relatives what the patient's limitations are, and to what extent he needs protection against particular stresses, so that a future breakdown may be prevented. The conduct of the patient is often a source of irritation and annoyance to members of his family, who, in their attempts to correct matters, may only succeed in making the situation worse. The physician should make the relatives understand that the abnormal conduct of the patient is a symptom of illness, for which he requires special treatment, and that they must not expect him to conform to normal standards. They must be made to realize that they should adapt themselves to the patient, rather than expect the patient to adapt himself to them.

In most cases of mental illness the advice of the psychiatrist is only sought after the case has been in the hands of the family physician. Often the family physician has but a hazy conception of mental illness and the manner in which it should be treated. When the patient comes under the care of the psychiatrist it is the latters duty to give the physician a presentation of the case which can be understood by him, and of value to him in dealing with similar situations in the future. The family physician is usually in close touch with the patient's relatives, and has their confidence. We should, therefore, endeavour to arouse his interest in the case to understand the rationale of our treatment, and support us in gaining the co-operation of the patient's relatives. Relatives will often accept advice and guidance more readily from their own physician, whom they look upon as a friend and adviser, than they will from the psychiatrist, who is a stranger to them.

When the patient leaves the hospital we should inform the physician what we consider the best mode of life for the patient to follow, and how he can best be protected from stress which might lead to another breakdown. If the physician is to carry out our instructions satisfactorily, the important *rôle* played by the psychogenic factors in mental illness must be explained to him. In presenting the case to him, we must remember that we are probably dealing with someone who has been accustomed to think of mental disorders in terms of disease of the brain. It should be our aim

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to show him the part played by the various factors in the life of the individual in bringing about his illness. We would do well to avoid using specific diagnostic terms, and speak rather of the patient's illness as a reaction to a situation. If we use diagnostic terms—schizophrenia, for instance—they probably convey only one meaning to him, namely, that the patient is suffering from an incurable illness. He will thus lose any interest he had in the case.

When a case of mental illness is treated in hospital, the part played by the nurse is an important one. The nurse should not be allowed to play a purely passive *rôle;* she should take an active part, under the guidance of the physician, in the treatment of the case. In order that she may do this, it is necessary that she be given some knowledge of the facts of the case. We should present the case to the nurse in such a way as to arouse her personal interest in the patient. If the patient behaves in an abnormal and erratic manner, we should explain to the nurse that the behaviour is not altogether meaningless, but that everything the patient does has some significance. We should advise her as to her attitude to the patient, and, inasmuch as we need her co-operation in the treatment, we should explain our reasons for adopting it. If the patient is hypochondriacal, we must make it clear to the nurse that, while the patient's aches and pains are fictitious, yet, to him, they are very real, and a source of great distress. It should be pointed out to her that the behaviour of the patient is greatly influenced by the manner in which he is managed, and that if he is unresponsive and uncoöperative she should take herself to task, and consider whether she herself is not in some degree responsible.

If we regard a mental illness as a reaction on the part of an individual to difficulties he has had to face, we may hope to gain some insight into the manner in which the illness came about by making a careful study of the individual's personality and of the environment in which he lived. We wish to know what kind of person the patient was before he became sick, what his capabilities were, what he has done, what difficulties he has had to contend with, and whether they were created by his own constitutional maladaptation to life in general, or whether they were of such a nature as to prove a stress to the average person. By taking the whole situation into consideration and assessing the relative importance of the constitutional and environmental factors, we come to some conclusion as to the method which we are going to adopt in helping the patient to readjust himself once more.

From the point of view of the treatment of the case, an exact verbal, nosological diagnosis is of much less importance than an

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understanding of the way in which the various factors in the patient himself and in his environment have worked together in bringing about his breakdown. In our treatment we must try and explain these things to the patient in such a way that he will be able to grasp them and use them for himself. If we can give the patient some understanding of himself and his difficulties, he will be more inclined to accept the advice we give him, and thus help himself towards recovery. Not infrequently we find that the patients with whom we have to deal in hospital seem to shut themselves off from almost all help and guidance, so that treatment on the above lines seems impossible. In dealing with such cases we must make use of the resources offered by them. We must adapt our treatment to the patient, trying one mode of approach after another until we find something which he is willing to accept, and which will help us in getting into closer touch with him.

Dr. Adolf Meyer emphasizes that we must obtain in each of our cases "the nature and depth of the disorder, the factors at work, and the points of attack for treatment." We should not think of the disease in general, but of the facts presented by the patient. Hence we try to secure the facts concerning "the total reaction, reaction-type or reaction-complex. The reaction-complex is then qualified by the statement of the ætiological or dynamic factors at work; it is next weighed for the possible structural involvement, and especially also the therapeutic opportunities, and the prognosis; and finally, according to whether the case does or does not coincide with a well-defined practical type, it is classed as identical with, or akin to, a standard unit such as we keep for our statistics and for elementary teaching."

One thing is certain: we have to get away from the idea of "one person, one disease." If we consider the personality as the unit which presents itself to us, and study the constitutional make-up, the special psychological and other factors at work, we get the best understanding of a patient. For every patient there is individual treatment, and we try to work with really individual facts. If we try to work from "analytic-synthetic dynamic" viewpoints, the psycho-pathological problems of man lie before us in a form which we can make understandable not only for ourselves, but for everyone who can assist us in the treatment of the patient.

Miss B. C—, æt. 16, schoolgirl. Admitted into the Phipps Psychiatric Clinic February 27, 1926.

The patient is the second of two girls. Her father died of general paresis when patient was two years of age. Her mother is living, she is a somewhat prudish, narrow-minded woman. A great-uncle died of senile dementia, and a paternal uncle was alcoholic and addicted to drugs.

The patient was born in 1910. Her birth was normal, and she walked and talked at the usual ages. She was a healthy child, who did not show any neurotic traits.

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She was an active, sociable, energetic girl. As a child she was rather self-willed, but she was not stubborn, and she was not given to tantrums. She played freely with other children, and was a leader in her group.

She commenced school at five years of age. She was an average scholar. She graduated from grammar school.

As she grew up she took an active part in the social life of her group. She was fond of outdoor sports, and had a great many friends of both sexes, with whom she was a general favourite. She was not shy, was always keen about amusements, and always seemed to be of a bright and care-free disposition. She was fond of dress; she liked the admiration of boys, with whom she was popular. Although affectionate towards her mother, she was not dependent upon her to any extent.

The patient herself was able to give some account of her sex life. Her mother, she said, did not give her any instruction in sex matters, but she got her knowledge from the other girls at school.

She states she practised masturbation for about two months before the onset of her illness. She knew that other girls practised self-abuse, because another girl discussed the matter with her. She could not remember exactly what this girl told her, but "she seemed very worried about it." The patient denies that she thought or worried to any extent about the matter; but she tried to give up the habit, because she "did not think it was the right thing to do." Before the onset of her illness she did not think that any particular harm could follow from masturbation, but she admits that, after she began to feel ill, she worried about the habit. She wondered whether it could cause a displacement of one of her internal organs. She cannot explain how she came to have this idea. With regard to her experience with boys, she says that she had numerous boy friends, but, apart from kissing, she never had any intimate relations with them.

In the summer of 1923, when 13 years of age, she went to Europe. While there she seemed to be run down physically, and her mother noticed that she had a slight degree of spinal curvature. On her return home her mother took her to a physician in Boston, who prescribed exercises and a spinal brace. She continued to have treatment for a year, so that she was not able to attend school during this period. In the fall of 1924 she entered a preparatory school with a view to preparing herself to enter a well-known women's college. She did not work excessively, nor did she appear to worry about her studies.

She seemed to be in perfect mental health until the onset of her present illness. During the Christmas vacation (1925) she was engaged in a continuous round of entertainments. She went to dances and parties practically every night, and often had very little sleep. On the night of January 2, 1926, she went for an automobile ride with two boy friends. An accident occurred; the car overturned, but no one was hurt. The patient did not appear to be upset at the time. On her arrival home her mother rebuked her for having gone out with boys in a car, and the patient seemed to take the scolding to heart. Next day she seemed upset. She cried, and complained that she felt dazed. She said that when out to dinner that night she had difficulty in following the conversation at table.

The following day, January 4, she returned to school; but next day she was found in her room, shrieking loudly, and evidently in a state of panic. She was taken home, and from that time until her admission to the Clinic (seven weeks later) she continued in a state of great emotional instability. She cried frequently for long periods and said that she was "going crazy" and that she had "no soul." She did not sleep well at night, and sometimes she appeared to be in extreme terror. If her mother approached her she shrieked loudly, and told her to go away. She declared that she could not bear to have her mother near her. After a few weeks her condition changed somewhat. She became sullen and preoccupied, and at times she gave the impression of not understanding what was being said to her. Her outbursts of panic still persisted. She would cry bitterly, say that her family did not understand her, and referred to herself as a "high-grade moron."

On her admission to the Clinic on February 27, 1926, the patient seemed depressed and tense. She was clear and orientated. She talked somewhat freely about herself and her condition, but she seemed strained and uneasy. When talking she burst into tears, and gave as the cause of her distress the fact that she had various fears and apprehensions—she feared she was going to be paralysed and that she would lose her mind. Next day she presented a somewhat different picture.

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She wandered about the ward in a somewhat dazed way. While talking to the physician she suddenly began to scribble on a piece of paper on his desk, and when asked what she was writing she replied that she was "making the dot-and-dash sign." While talking she seemed on the point of tears, but she also frequently giggled and smiled. At times she made self-depreciatory statements, such as "The others don't want to have me around. Why should anyone like someone whose growth is stunted?"

When asked what she considered to be the cause of her illness she replied, "Only myself, because it's God's way. He meant for it to be that way. He has control of all people." She said she was worried because she did not "grow up," and she complained that her teeth did not seem to move. She continued in this condition for several days, was quiet in the ward, sat by herself and cried frequently. She asked whether her hands were growing smaller, and whether her eyes were becoming crossed. She wondered whether the stripes on her pyjamas meant laziness. She seemed in a perplexed state. She said, "I feel confused and upset. I don't know what it's all about. I started out a girl, and now I am a boy."

At times she seemed depressed, and she described her own mood as being one of depression; but, as a rule, she could easily be diverted to smiles. She remained in this state for a week, and then began to show considerable improvement. She behaved in a perfectly normal way, seemed cheerful and sociable, and took part in the various activities in the ward with enjoyment. She was able to give a good account of herself and her illness. She said that during the Christmas vacation she felt tired and "done out." Following the automobile accident she felt very worried. The boy who drove the car was slightly under the influence of alcohol at the time the accident occurred, and she worried because she thought that people would talk about him and make uncomplimentary remarks. She had asked him to take her for a ride, and so she considered that she was largely responsible for the accident. On the day after the accident she felt dazed and "far away." She could not now remember what she thought about. When she went back to school the other girls talked about the accident, and said that her friend who drove the car was "dead drunk" when it happened. She was very worried about the remarks, especially as they were a gross exaggeration of the actual circumstances. She said she felt very tired—"I couldn't do things; I couldn't study." She went to her room and cried because she felt "so tired." Asked why she had screamed when her mother came into her room at home she said it was because she felt unworthy of her mother, on account of the fact that she had practised self-abuse.

The period of improvement, during which the patient was able to give the above account of her illness, lasted about two weeks, and then she relapsed into the condition she was in upon her admission. She ceased to take part in the activities of the ward. She seemed distressed and perplexed. She said she was worried because sometimes other patients in the ward seemed to her to be different in size at different times. She complained of feeling at times as if she were "flying away." People did not seem to her to be telling the truth, and she had the feeling that she did not tell the truth herself. At times she wandered around the ward in an aimless manner, and in her behaviour gave the impression that she was in a state of perplexity and apprehension.

Formulation of Case

As regards her endowment, the patient has a somewhat unstable background on the paternal side (paretic father, senile grandmother, alcoholic uncle), and, furthermore, has in her physical make-up a spinal curvature, about which, although it is slight, she is rather sensitive. In spite of the fact that she lived with a somewhat prudish mother, she seemed to lead a remarkably free and outgoing life.

The striking thing about the onset of the illness is its suddenness. Undoubtedly the assumption of the responsibility for asking an intoxicated boy to take her for a ride must have been a severe

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psychological trauma, especially since the drive resulted in an accident. The fact that her mother increased her feeling of blame by scolding, and that the next day the girls at school spoke about it disparagingly, seems to constitute a rather inadequate ætiology for a serious upset, considering the patient's constitutional make-up. Apparently, two weeks before the onset, she was going to a great many parties, and was getting little sleep. This must have resulted in considerable fatigue, and probably a certain amount of sexual excitement. For the first few days the outstanding facts were the emotional instability, with a mixture of depression and terror, and the talk of going crazy and having no soul. The shift to sullenness and preoccupation, with difficulty in understanding what was said to her, is noteworthy. Apparently this state was not constant, because on admission to the Phipps Clinic she seemed quite clear, talked freely about herself, and was fearful and depressed with the idea that she was going to be paralysed and would lose her mind. Many of her utterances suggest an auto-erotic conflict. Her relapse into a perplexed condition again, with frequent alternation of tears and giggling, together with her odd scribbling of the "dot-and-dash sign," might suggest a somewhat schizophrenic colouring. After this her utterances were, for the most part, depressive, although the feelings that her hands were growing smaller and her statement that she "started out a girl, and now I am a boy" suggest a more serious type of body-alteration feeling. It is interesting to note further that she definitely complained of feeling confused and upset. The three-week period of improvement with good insight into her illness, and the explanation of some of her unusual behaviour on a depressive basis (sending her mother away because she felt unworthy of her on account of the auto-erotic activity), argue for benignity. Her relapse into the dazed attitude, with definite perplexity, the subjective feeling of the difference in the sizes of people, and the uncertainty about whether she told the truth, or was being told the truth, spread a more ominous colouring on the psychosis. It is, of course, possible that the relapse was precipitated by a too rapid ventilation of the patient's complex material. One must bear in mind that the patient was brought up under the influence of a prudish mother, and that her auto-erotism and the excitement resulting from the Christmas festivities apparently played an important part in the psychosis.

In summing up the case at this juncture, I should be more inclined to regard the psychosis as predominantly affective, with confusion. In favour of this is the marked depression, the self-depreciatory and self-accusatory utterances; secondly, the sudden

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onset following what was to the patient considerable psychic stress, the rather frank auto-erotic conflict, and the patient's good behaviour and contact in the ward. The more ominous signs are the acute panic attacks, the perplexity elements (which may, however, be affective bewilderment), the talk of body alteration.

Formulation to the Nurse.

Girl of extraordinarily healthy, active, sociable, friendly life. Handicapped by a slight spinal curvature, and quite sensitive about it. The girl became upset because there was an accident during an automobile trip which she had suggested. Apparently somewhat sensitive about sexual self-arousals, much of her talk would allude somewhat to worries and fears about this form of sexuality. The nurse should be cautious in talking with the patient not to push inquiries into the meaning of any sex-references, but should note them down so that the physician may use them at a later date. The patient should be tactfully led away from any discussion of intimate matters, for fear that she may have a subsequent revulsion of feeling. The main energy of the nurse should be devoted to getting the patient to follow routine, undertake some form of hand-work, and to participate in games.

Formulation to the Physician.

As we now see the case, we are very hopeful that, because of the relatively normal life the girl has led, and the fact that this upset came when she was very tired, and on the occasion of what might have been a rather serious accident, for which she might legitimately take part of the responsibility, and, further, because of the degree of depression, the girl may make a recovery. That, on the other hand, we are inclined to present to the family a hopefully guarded prognosis. This, because certain features of the case—namely, the panics, the perplexity and the feeling of body alterations—occur in the more serious types of psychoses. (I should avoid using diagnostic terms, and would try to explain it, thinking of life situations.)

Formulation to the Family.

Tell mother that, on the whole, we are hopeful that the girl will get well, but that, both because of our uncertainty about the outcome and the fact that we cannot predict the length of time that recovery may take, she should make her plans, financial and otherwise, for a long rather than a short illness. Impress upon her the necessity of encouraging the girl, by a sympathetic attitude, to ventilate her problems and future difficulties. The girl will not

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do this unless she feels that her mother is able to look at matters from her point of view. Hint tactfully that it is difficult for older people to see eye to eye with youth, but that she should endeavour to direct the patient's energies into safe and harmless channels rather than suppress them.

The reason for this advice is that apparently the girl is somewhat over-sensitive, and takes her responsibilities seriously; and, although the mother was quite right in her disapproval of the automobile ride, she must, in the future, realize that discipline and condemnation should be tactfully given, and also that adolescent girls are confronted with many problems of their emotional life, which leave them floundering unless they are wisely and carefully instructed.

In regard to our plans for further treatment, we have to take into consideration the fact that we cannot go too fast with an analysis. We have to decide whether we shall attract the patient's attention by occupation, or whether we shall try to analyse as much as possible. It is very important to make clear whether a male or female physician can have better *rapport* with and influence upon her. Some homosexual features which we observe in the patient, and her easily stirred up sexuality, need special attention.

I wish to express my thanks to Dr. Adolf Meyer, Director of the Phipps Psychiatric Clinic, for his permission to use the case material, and for his stimulating advice and unfailing encouragement.

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*Some Points in the Histology of the Globus Pallidus.** By E. Barton White, M.R.C.S., L.R.C.P.Lond.

There are many references in neurological literature to pathological changes in the globus pallidus in diseases accompanied by muscular tremor and rigidity, such as paralysis agitans and post-encephalitic Parkinsonianism.

Scattered among these references are descriptions of a very striking change in the walls of the blood-vessels of the globus pallidus, seen as a deposit—often in large amounts—of amorphous material in the outer walls of the blood-vessels. The amount of this material laid down in the vessel-walls is often enough to obliterate almost entirely their muscular and elastic fibres. When examined by routine methods, the deposit *resembled* very closely the process of calcification. As more cases were described, and the condition was always relatively gross, easy to detect and very striking, there arose a tendency to regard it as pathological, and as

(*) A paper read at the Quarterly Meeting held at Bristol, February 16, 1928.

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probably taking part—according to some observers, a *large* part—in the production of signs and symptoms of certain specified diseases.

In 1926 Weston Hirst, working at the National Hospital, Queen's Square, London, examined 100 brains from all varieties of chronic nervous disease, and found this change in the vessels bilaterally and symmetrically distributed, and sharply limited to the anterior half of the globus pallidus in 50 of his cases, and at all age-periods between 20 and 81.

He firmly established the fact that the material was not calcium, but that a large part of it at least was composed of iron, present in a combination which was particularly easy to stain.

He also found this ferruginous material lying free as irregular granules in the corpus striatum, but especially in the globus pallidus, in almost the same percentage of cases.

His results show that (*a*) the deposit is not a senile change, (*b*) it has no relation to arterio-sclerosis, (*c*) the change in the vessel-walls is very frequently seen when no pathological change can be found in the nerve-cells of the nucleus.

Hirst concludes that (*a*) the presence of the vascular deposits is an expression of the proclivity of the globus pallidus to undergo degeneration in the second half of life. (*b*) The deposit of iron salts is to be correlated with the high iron content of the globus pallidus.

Hadfield has extended Hirst's work in two directions: First, by showing that acute bilateral necrosis may affect precisely that part of the globus pallidus in which the change in the vessels is found; and secondly, that a rich deposit of iron salts is present in the vessel-walls of the pallidus in at least 50% of persons not suffering from chronic nervous disease, and from the age of 30 upwards. In Hadfield's series are many cases of presumably normal people dying from accident or misadventure in which the proportion is the same.

I have examined 30 brains from cases of mental disease, and my figures are almost the same as those of Hadfield from non-neurological and non-mental cases, and are clearly in accord with those of Hirst for chronic neurological cases.

As regards the demonstration of the iron in the vessel-walls, this is most satisfactorily shown by staining with ferricyanide of potash and hydrochloric acid, and counterstaining with neutral red.

The deposited material is quite easily seen in sections stained by the hæmatoxylin dyes, when it stains intensely and closely *resembles* calcareous deposit.

The following table gives particulars of 30 cases in which the

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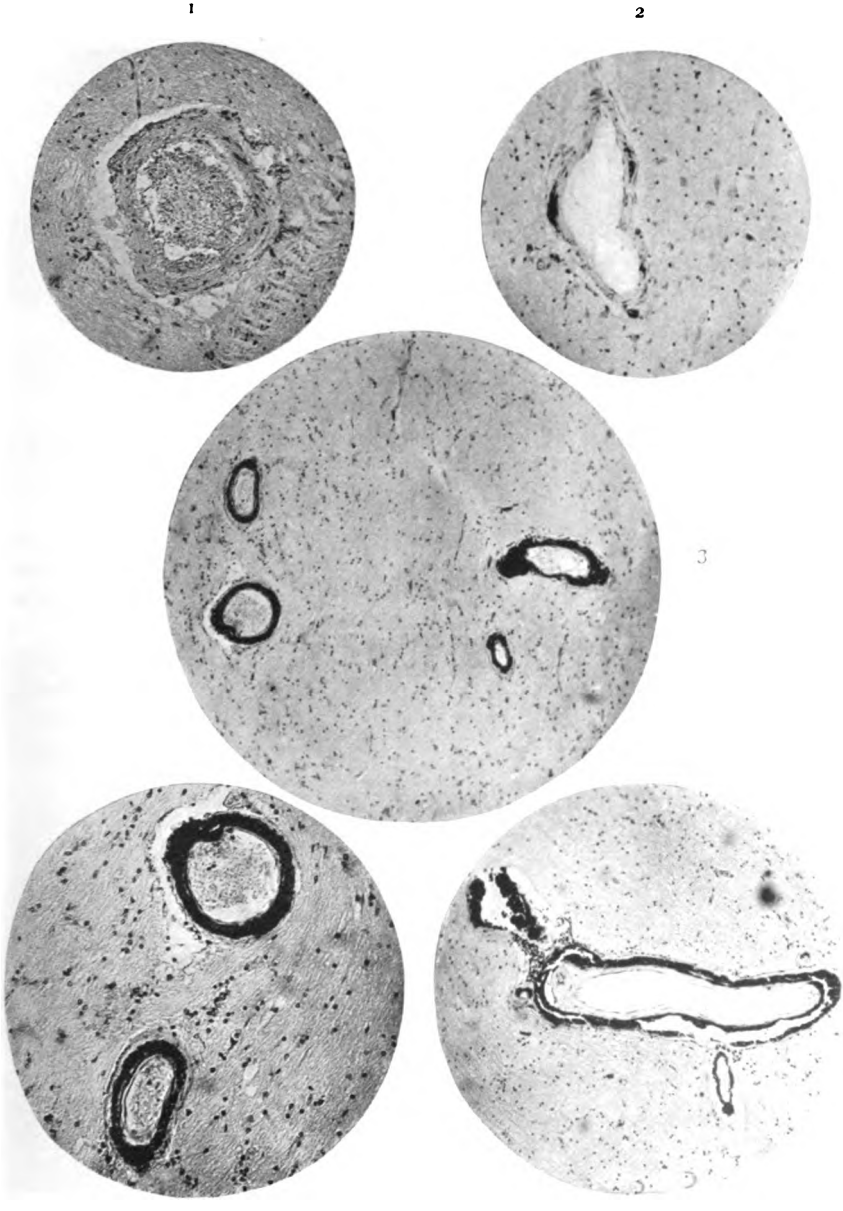

1. Arteriole from globus pallidus from case of Huntington's chorea. Stained for free iron with completely negative result.
2. Commencing deposit in a vessel of the pallidum in young adult.
3. Well-established deposit in four vessels.
4. Two vessels from preceding under a higher power.
5. Early deposit showing large collection free in Virchow-Robin space in left and infiltrating outer coats of vessel in centre of field.

To illustrate Dr. E. BARTON-WHITE's paper.

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pallidum on each side was examined by specific staining methods for ferruginous deposit:

No.	Age.	Sex.	Mental state.	Cause of death.	Deposit in pallidus.	
					Vascular.	Extra-vascular.
1	49	F.	Dementia	Huntington's chorea	—	—
2	18	M.	G.P.I.	G.P.I.	+	+
3	35	F.	D. præcox	Tuberculosis	++	+
4	89	M.	Dementia	Senility	—	—
5	57	M.	Melancholia	Broncho-pneumonia	—	—
6	55	M.	Confusion	Prostate and cystitis	++	+
7	77	F.	Dementia	Cardio-vascular	++	+
8	27	M.	D. præcox	Tuberculosis	—	—
9	77	M.	Dementia	Cardio-vascular	++	+
10	69	F.	Delusional	Endocarditis	+++	+
11	60	M.	Dementia	Lobar pneumonia	—	—
12	64	M.	Imbecility	Nephritis	—	—
13	69	M.	Dementia	Lobar pneumonia	—	+
14	70	M.	,,	Influenza	+	—
15	76	F.	,,	Endocarditis	++	—
16	58	M.	Paranoia	Myocarditis	+	—
17	53	M.	D. præcox	Influenza	—	—
18	45	M.	Epilepsy	Broncho-pneumonia	—	—
19	65	M.	Dementia	Pneumonia	++	+
20	27	M.	Confusion	Influenza	+	+
21	46	F.	Dementia	Pneumonia	++	—
22	51	M.	D. præcox	Influenza	+	+
23	55	F.	Melancholia	Cardio-vascular	++	+
24	47	M.	G.P.I.	G.P.I.	—	—
25	53	M.	,,	,,	+	+
26	88	M.	Dementia	Senility	++	—
27	53	M.	Delusional	Influenza	—	—
28	68	M.	Imbecility	Pneumonia	—	+
29	30	M.	G.P.I.	G.P.I.	+	—
30	63	M.	Epilepsy	Influenza	+	+

The age, sex, form of mental disorder and the cause of death are given, and the presence or absence of iron deposit, both vascular and extra-vascular.

"Minus" means absence of deposit.

One "plus" means the change is just beginning, and does not completely surround the vessel-wall.

Two "plus" means a more advanced case, where the deposit surrounds the vessel-wall.

Three "plus" where the deposit is extreme and invades the whole wall, and there is an extension to the tissues around the vessel.

The last column shows the presence or absence of iron deposited throughout the substance of the pallidus, irrespective of the blood-vessels.

It will be seen that the ages vary from 18 to 89, and that there is a fair assortment of mental and physical states. It is present in a boy of 18, and absent in a senile dement of 89. There are three cases together, all over 60, which are negative. There are two young men of 27, one positive and the other negative. There are 17 + and 13 — in vessels. Extra-vascular, 13 out of 30.

These results agree with Hirst that it is not a senile change.

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I was fortunate in being able to include a case of Huntington's chorea, Case No. 1, and after the observations of others I expected to find this positive. There was no iron deposit at all.

The blood-supply of the globus pallidus is from the antero-lateral branches of the basal branches of the middle cerebral artery.

Though the condition I have described is rarely found elsewhere than in the anterior part of the globus pallidus, these same antero-lateral branches also supply the putamen, the internal and external capsule, the caudate nucleus, and a part of the optic thalamus (Cunningham).

Some veins are affected in the same way, but not nearly so frequently as the arteries, and chiefly in the more advanced cases. Hirst found only 5 in 50 cases.

The process most frequently starts round the adventitia, spreading to the media, and occasionally to the intima in extreme cases.

In the other direction, the Virchow-Robin space outside the vessel-wall may be filled with this deposit, and the immediate tissues round the space may be dotted with varying-sized masses.

In 13 out of my 30 cases there is a scattered deposit through the pallidus irrespective of the vessels. This may be seen to a less degree in the putamen, where the vessels are free.

The process consists of an infiltration by iron salts, the usual tests failing to demonstrate the presence of calcium.

As far as these 30 cases of mental disorder are concerned, they show that the proportion of positives, *viz.*, 17 in 30, differs little from the findings of Hirst, and are much the same as those of the normal brain as shown by Hadfield.

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*Mental Disorder in Cardiac Disease.** By CAREY F. COOMBS, M.D., F.R.C.P., Physician, Bristol General Hospital; Consulting Physician, Bristol Mental Hospital.

I do not propose to attempt any critical review of what has already been written on the subject which forms the title of this paper, but merely to lay before you my own experience. At the same time I may remind you that there is distinguished support for the view that a close association exists between insanity and disturbances of the cerebral circulation caused by cardiac defects.

Now, it may seem presumptuous to question or even to examine a hypothesis to which eminent men have subscribed their belief. Yet my own experience of cardiac disease leads me to another

* A paper read at the Quarterly Meeting held at Bristol, February 16, 1928.

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view. I have reviewed the notes of about 2,000 cases of cardiac disease seen in hospital and in private practice, and have from these drawn certain inferences as to the connection between cardiac disease and mental disorder. Let me arrange these ideas under three headings. First, is there any evidence that mental disorder causes cardiac disease? Second, do the circulatory disturbances arising from cardiac disease often upset the mental functions? Third, how far do coincidences of cardiac disease with mental disorder owe their origin to some common cause?

The first question, that of the capacity of mental disturbance to damage the circulatory organs, prompts a brief glance at certain functional cardio-vascular disorders which were of frequent occurrence during the war and crop up quite often in civil practice. "Irritable heart," as it is sometimes called, is the commonest clinical syndrome resulting from upset of that vago-sympathetic balance by which the rate of the heart is controlled. It results from habitual over-acceleration of the heart, which expresses itself subjectively in the form of various uncomfortable sensations provoked with undue ease by excitement and exertion, and objectively by disproportionate speeding of the pulse and heart-beat. Occasionally the disturbance is in the opposite direction, that of vagus triumph producing abrupt and inordinate slowing of the beat. This may go so far as to produce fainting attacks. In either case, whether it is speeding or slowing that predominates, the causation is the same, namely, something affecting the heart as a whole, from its pacemaker downwards, and achieving this through the medium of the vago-sympathetic control of the heart. This syndrome was exhibited on a massive scale during the war and was one of the chief causes of invaliding. By the beginning of 1917 there was not a base throughout the whole of our fields of operation that had not a depot for the relief and cure of these men. Consequently an enormous amount of research was directed to finding out the cause of so damaging and costly an affection. You will doubtless recollect the work done at the Mount Vernon Hospital, Hampstead, and subsequently at Colchester, the first under Sir James Mackenzie and the second under Sir Thomas Lewis—names which guarantee the thoroughness and impartiality of the inquiries made. These investigators first proved that the seat of the disturbances lay outside the heart, in its nerves and not within its muscles. Next, they sought the reasons for these disturbances, and I think I may claim without challenge that by the end of the war it was generally agreed to attribute them to the long emotional strain of war service, often aggravated by the effects of bacterial intoxication. The unconscious preparation for flight or fight

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that is immediately inaugurated by challenging events leads, in the uninhibited animal, to some action that puts an end to the situation and to the heart-speeding which it demanded. Not so in man, inhibited by all that is implied in military service; he had to stand still, and his tachycardia therefore continued without relief.

Now the same thing often happens in civil practice, especially in adolescents and young adults whose emotional experiences have to be firmly repressed. Lacking an outlet through the medium of volitional action, these betray themselves in an irrepressible tachycardia, the resulting discomforts often becoming intolerable if the provocative circumstances are repeated often enough. That mental disturbance is often the chief factor in causing a common type of functional cardiac disorder is therefore clear. I should be glad to know whether your experience shows that similar cardiac disorders are common in the subjects of full-blown mental disease.

When these disorders of the action of the heart were rife in the war period, we feared, not unnaturally, lest they should leave some permanent injury of the cardio-vascular apparatus. The investigations of Lewis and Grant (1), however, prove that this is not so. They examined a number of ex-service men whose cardiac disturbances had persisted for some years after the war, but found no evidence of the development of an organic change in the heart or blood-vessels. Nevertheless, there is a general belief that mental stress and worry are appreciable factors in the production of high arterial tension, and thus of organic deterioration of both heart and arteries, in many cases. It is difficult to see how this belief can be scientifically tested, but it is widely held, and it would be interesting to know whether the abnormal mental stresses of insanity reflect themselves in premature cardio-vascular degeneration. Probably the matter has been investigated. If not, it ought to be possible to do so.

Apart from this I do not believe that there is any form of heart disease which arises out of mental disorder. It has been said lately that mentally defective children are abnormally liable to rheumatic infection of the heart, but I am convinced that this is not so. Acquired disease of the heart is, I believe, rarely encountered among children at Stoke Park, while on the other hand, I have not seen half a dozen mental defectives among as many hundred cases of rheumatic heart disease in childhood. Indeed, the view advanced by some who have made inquiries into the conditions that predispose to rheumatic infection in childhood is that this disease is found particularly among the more ambitious and intelligent families of the industrial suburbs. A possible association between

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mental defect and cardiac disease I noted in a youth with chronic ulcerative endocarditis, whose mental instability made him unemployable and exposed him to privation, followed by fatal streptococcal infection of a previously damaged mitral valve; but even here an influenzal broncho-pneumonia was apparently instrumental in introducing the streptococci.

Coming to the next question, whether cardiac disease can be directly responsible for mental disorder, I am struck by the absence of any unimpeachable evidence to be drawn from my own experience in support of such a view. There are, I suppose, two conceivable ways in which cardiac disease might produce an effect on the mind. In the first place, the suffering experienced by the patient is so continuous and unrelenting, and often so terrifying, in that it appears continually to threaten death by suffocation, that it might well destroy the mental equilibrium. Secondly, if mind is indeed a function of the brain, deficiency of the cerebral circulation might be expected to cause mental disorder, just as similar deficiencies dependent on cardiac disease interfere with the functions of the kidneys and liver. If, however, we test the matter by referring it to the court of experience, we find little or no support for this notion. Let us take a form of cardiac disease in which the circulation through the brain is obviously hampered, yet without concomitant vascular lesions which might vitiate our argument. Rheumatic heart disease affords an excellent field for such inquiries. In its later stages this disease is characterized by what is sometimes spoken of as congestive heart failure. The mitral valve has become stiff and narrow, obstructing the flow of blood into the left ventricle more surely and neatly than any experimental ligature could do. The left auricle and its tributaries, the pulmonary veins, become over-full, as also are the pulmonary capillaries, the pulmonary artery, and the right heart that fills them. This again holds up the blood return from the organs. Often a further cause of stasis is added in the shape of auricular failure. The auricle walls, overworked and underfed, go into fibrillation, and not only cease to assist in the filling of their respective ventricles, but actually hamper them in their work by sending them an excessively frequent and irregular stimulation. The result is a permanent slowing of the capillary current in its widely ramifying bed. The tissues receive oxygen and are freed from their excretions, carbon dioxide and so on, more slowly than normal. Dyspnœa in cardiac disease is generally acknowledged to be due to these defects in the blood-supply acting on the respiratory centre in the medulla. There can be no doubt, therefore, that persons who spend their lives in a condition of more or less urgent dyspnœa, as patients

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with advanced rheumatic heart disease do, possess brains the functions of which are perceptibly influenced by the degradation of their blood-supply. Yet it is the rarest thing to find insanity as symptom of rheumatic heart disease. A search through the notes of 1,000 cases, nearly half of which might be described as "advanced," has brought to light only ten examples of serious mental disturbance. For the most part the disturbances have been in the direction of excitement, but I recall two examples of depression. In only one instance have I any record of an attempt at suicide, and an added interest is derived from the fact that the method selected, that of poisoning by coal-gas, failed in its object, but was succeeded after a few days by a change from the normal cardiac rhythm to that of auricular fibrillation. In another girl there were temporary delusions of persecution which we thought might be due to heavy doses of sodium salicylate, and in another a feebleness of mind which seemed to develop out of a cerebral embolism. Another woman was a drug-taker. One other case is worthy of mention, as it serves to show how difficult it is, even when a cardiac patient becomes insane, to lay the insanity at the door of the cardiac lesion. A man in middle life, who had risen rapidly in his profession, was on the point of promotion to a higher position still, when a mitral lesion of old standing became aggravated by the onset of auricular fibrillation. He was very disturbed—quite excessively so—at this interference with his career, and was not at all pleased when we advised him to lie up while we attempted to restore his normal rhythm by the use of quinidine. After the first dose of this he became wildly excited and maniacal, and struggled so violently that he became exhausted and died. There was no autopsy. He was quite free from any symptoms which pointed to cerebral embolism as a cause of the frenzy in which he died. But was it due to the quinidine? Hardly—to a single dose of five grains. Again, was it a result of his heart lesion? This was not causing any very obvious interference with the circulation, in spite of the fibrillation, and could scarcely be blamed as the direct cause of his mental explosion. I am convinced that this was brewing for some time before the actual outburst, which was probably hastened not so much by the quinidine as by the prospect of further inaction which that course of treatment involved.

Possibly it is in this indirect way, through its thwarting of the primitive instincts, that rheumatic heart disease produces hysterical symptoms in a certain number of girls and young women. In about a dozen—not more—of the patients with rheumatic heart disease who form the basis of these remarks, such symptoms

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were noticed. In two instances this took the form of temperature-faking. These girls, both of them, devised means of simulating fever by tricks with the thermometer, which escaped detection for a time and in each case led to a diagnosis of ulcerative endocarditis. There has been no direct proportion between the degree of circulatory difficulty and the liability to hysteria, so that if there is any relation between the two sets of phenomena that relation must be indirect.

Before turning from this question to the next, we may yet glance at one or two other forms of heart disease which obviously interfere with the circulation in the brain. First let us think of those which cause extreme pallor by reason of poor filling of the carotids and their branches. Such a pallor is seen in many cases of acute ventricular failure, as in infarction of the heart. Here the patient is shocked and frightened, but never insane unless other influences, such as old age and atheroma, come into action. Again, there is the state of affairs known as the Stokes-Adams syndrome, in which heart-block greatly slows the ventricular beat and induces fits, which are presumably due to cerebral anæmia. I have watched these people have fit after fit. First the face turns pale, then the patient looks alarmed, then goes off into a sort of faint, sometimes with convulsions. As the attack passes off the face flushes and the patient comes round. He is quite lucid in the intervals. In a fatal case with ultimate Cheyne-Stokes breathing and a bulbar death the old lady who was its victim showed no mental symptoms, other than lively alarm at first with deepening stupor later. Once more there is the patient with auricular flutter or paroxysmal tachycardia, the heart beating at such a rate that it can never fill either itself or the blood-vessels. Here again the patient is often pale and anxious, but never disturbed mentally, except when there is reason to suspect other factors beside the cardiac, interfering with the circulation through the brain.

We must also spare a moment to see whether prolonged and profound cyanosis is accompanied by mental disorder. We see this cyanosis not only in congenital morbus cordis, but also in a form of acquired disease which some of us have lately investigated (2) —primary atheroma of the pulmonary artery. This disease, rare in Europe, is not so rare in India and in South America. In the latter, Ayerza, of Buenos Ayres, has described this syndrome under the title of "Cardiaco Negro"—the black cardiac—which tells us all that we need to know about the degree of cyanosis usually seen. In the last stages the patient's face takes the colour of a dark plum, and he becomes sleepy and stuporose, but never, I believe, is any other mental disturbance noted.

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My answer, then, to the question, "Does cardiac disease cause insanity?" would be "No"; the incidence of insanity in uncomplicated heart disease is not higher than that of insanity among the general population.

Last of all we must examine those circumstances under which mental disorder and cardiac disease coincide because they are referable to a common cause. Now, a consideration of the various ætiological categories into which cardiac disease is divisible shows that, as a general principle, conditions leading to abnormality of the heart also interfere with the integrity of the brain. In congenital anomalies of the heart various forms of mental deficiency are encountered, though I cannot help thinking that this association has been over-emphasized. In a group of 29 cases of congenital cardiac anomaly I only encountered mental defects twice; and among the Mongolian imbeciles whom I have seen I can only recollect one example of cardiac defect.

If we turn to the morbid processes causing acquired lesions of the heart we shall find also that these attack the brain. The rheumatic infection causes chorea; thyrotoxicosis injures the heart and excites the brain; alcoholism has its cardiac as well as its neurological aspect; and syphilis of the heart is at least as frequent and dangerous as cerebro-spinal syphilis. Now, though these statements are true in general, I have been a little surprised, in reviewing my notes, to see how seldom the cardiac and the cerebral lesions appear to overlap in any given case. It almost looks as if the agent of disease selected now the brain and now the heart, according to the individual attacked. For example, among 67 persons with cardiac syphilis, only one showed definite signs of cerebral syphilis causing or threatening insanity at the time of examination. No doubt, if I had followed every case forward for some years other examples of insanity would have appeared; but I think most of us would agree that the Babinski syndrome, even in its widest interpretation, is not often seen.

I have left till last two kinds of cardiac disease, because these do provide us with examples of coincidence between cardiac disease and mental disorder. Of these two let us consider first the patients with hyperpiesis. An account of a concrete example of the problem raised by these will most clearly set before us the matter in hand.

In May, 1921, I saw in consultation, a business man of 47 who had for some time been overworked and worried. A fortnight before I saw him he began to have symptoms of serious cardiac disease in the shape of nocturnal dyspnœa. A week later he developed a degree of mental confusion—made strange remarks, felt stupid, and found he could not count—while on a long

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railway journey. Arriving at his destination, he found himself too confused to attend an important meeting. He was sick on the way home after this, and several times afterwards. On examination he was found to be drowsy, but there was no paresis or any other localizing symptom except for a doubtful squint. His pulse was 100 per minute, exhibiting the total arrhythmia of auricular fibrillation. His blood-pressure was 200 mm. Hg. systolic and 120 mm. diastolic. There was no albumen in the urine, but we took the view that he was suffering from uræmia as well as from auricular failure. Seen the following month, he showed a gradual improvement, but the fundi had developed the changes characteristic of albuminuric retinitis. Next month his sight was better, his heart's action was to some extent controlled by digitalis, but he still complained of confusion of mind and both appetite and sleep were poor. During the following six months he became very depressed, and took his own life eight months after the initial dyspnœa. We should be taking altogether too narrow a view of such a case as this if we were to ascribe the mental symptoms wholly to the cardiac breakdown. It is true that they did not appear till about a week after the dyspnœa which marked the onset of cardiac failure. Yet it cannot be doubted that in addition to any inherent instability of mind which may have lain unrevealed, the years of renal inadequacy and of arterial overstress, to say nothing of the direct effect of business troubles, must have made it easy for the circulatory failure to induce him to commit suicide.

This brings me to that last group of all, the patients with senile heart disease. By this I mean degeneration of the cardio-vascular apparatus—a process so nearly natural as to deserve the title of decrescence which Sir Clifford Allbutt conferred on it. Gradually proceeding from the dissolution of the highest faculties to those immediately below, this involution of the life of the mind is doubtless based on a progressive cardiovascular decay—or perhaps we should say accompanied by it, the two being twin expressions of this same fact of senescence. To grow old gracefully is a fine art, but sometimes it is rudely disturbed by intercurrent events. I have selected notes of half a dozen examples of this, and with a brief analysis of these I will conclude my paper. One case should perhaps be treated separately, since the causation was a little different. This was the case of a man of 58, who came into hospital with aortic regurgitation of specific origin. He became progressively water-logged, and more and more fractious and difficult to control. He thought that we were plotting against him, and in his determination to disappoint us he did actually escape from hospital, inadequately clothed, but got on the wrong

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tram and lost himself completely, eventually arriving here at Fishponds for the night and returning to the General Hospital next day. We were at our wits' end what to do with him, when by a stroke of good fortune we were able to relieve him of much of his dropsy by diuretic crises following injections of novasurol. His mental state improved so much that he was able to go home, where he died, quietly I believe, a few weeks later.

Here was an example of the "cardiac delirium" that has been described and associated particularly with the circulatory changes consequent on aortic regurgitation. Yet I cannot see any difference, except one of degree, between his symptoms and those exhibited by the other five patients in this group.

These were all of them men of 70 or older. Four were in more or less active life till the onset of the cardiac breakdown that was followed by the mental symptoms. The fifth had, in addition to auricular fibrillation and other evidences of senile heart disease, shown signs of failing mental powers for over a twelvemonth, when an attack of gastro-enteritis, not in itself severe, made both cardiac and mental symptoms much more serious and indeed fatal. Here, as in all the others, the sequence of mental symptoms was (*a*) loss of memory, with confusion as to time and place; (*b*) suspicions of persecution, or at all events of an unfriendly attitude on the part of those about him; (*c*) great restlessness and excitement. In his case this passed into drowsiness, which was accompanied by a progressive and rapidly fatal cardiac failure. In the other four patients, as I have already said, the order of events was a little different. In all four a cardiac breakdown preceded the onset of the mental disorder. In one the picture was that of a coronary thrombosis with acute ventricular failure; in another, the same, with periods of what appeared to be auricular flutter in addition; in a third, auricular flutter passing into fibrillation and accompanied by a short febrile illness—apparently some mild intestinal or biliary infection; and in the fourth, progressive cardiac failure with total arrhythmia and dropsy succeeding to hyperpiesia and arteriosclerosis. In this last patient the mental symptoms were very pronounced and intractable. The most striking feature was confusion as to time and place, especially the latter, and this has been a feature of all the cases I have seen. The patient became unable to recognize the room in which he was living and insisted that he had been taken away from home, now thinking that he was in some institution and now in a foreign hotel. Out of these mistaken ideas, suspicion as to the motives of those in charge inevitably develops. He thinks they are lying to him, and for no good purpose, and makes the most strenuous efforts to

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escape from their clutches. In one of these four cases the mental disturbances were short-lived, but in the remainder they proved more or less persistent.

Now, what I think must be insisted upon is that in these patients the failure of the heart to supply blood adequately to the periphery is merely one factor—often the final straw it is true, yet only one of many that together are sufficient to break the camel's back. Already the brain is worn out, and so are the vessels supplying it. So, also, is every other organ in the body, and when the circulation also fails, all sorts of new influences, of which uræmia may be included as one example and mild terminal infections as another, come into play and the mind is dethroned and the whole economy falls into anarchy. The process of decrescence has been hastened and confused, but it is still the same process, and it does not seem to me that we ought to speak of cardiac disease as causing this kind of mental breakdown. Undoubtedly it is a contributory cause, but that is all that should be claimed for it. At the back of both mental and cardiac disorders is a cause common to both—the series of events included in the term "decrescence."

To summarize, then, we may say that there is no evidence that cardiac disease can, unaided, cause insanity. There is reason to believe that mental disturbances can cause cardiac disorder, but whether these can go further and establish organic change appears to me uncertain. Finally, there are many morbid processes which affect both heart and brain, and thus account for many of the coincidences between cardiac disease and insanity.

References.—(1) *Heart*, 1925, xii, p. 121.—(2) *Quart. Journ. of Med.*, October, 1927, xxi, p. 51.

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*Volvulus.** By FRED C. LOGAN, M.B., Ch.B., F.R.F.P.S., Deputy Medical Superintendent, and JANET A. A. SANG, L.R.C.P.&S. Edin., Senior Assistant Medical Officer, Prestwich Mental Hospital.

VOLVULUS is not a very common condition. In large general hospitals the incidence is about one case or two cases a year. It has occurred here at Prestwich eleven times from 1923 to 1927, and comparing the huge population served by a general hospital with the number resident in a mental hospital the frequency of the condition is out of all proportion. This fact is the reason for the present paper, giving some account of the condition and stating the factors that were present in the cases. Whether certain types of mental cases are liable to develop this pathological state

* A paper with demonstration of cases at a Divisional Clinical Meeting held on February 1, 1928, at Prestwich Mental Hospital.

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is a matter which will be discussed, and about which the experience of others will be welcome.

By volvulus is meant, as you know, an axial rotation of a coil of bowel so that its venous return is obstructed and the lumen of the canal completely blocked. The part of bowel involved has been the sigmoid in our cases. The sequence of events that takes place in the twisted coil are:

(1) Vascular engorgement with—

(2) Violent stimulation of the sympathetic supplying it. Then—

(3) Distension with gas, mostly CO_2.

(4) Complete obstruction of the lumen of the bowel.

(5) Complete arrest of the circulation in it.

(6) Paralysis of the coil of bowel which, if the condition is not relieved, is followed by—

(7) Thrombosis of its vessels, and—

(8) Gangrene, with or without rupture of the peritoneal coat.

Paralysis.

When the condition has lasted sufficiently long—and this may be a matter of perhaps only an hour—the bowel is paralysed, with the result that micro-organisms from the lumen pass through its wall to the peritoneum, which becomes infected. The longer the delay in operating the greater the risk of peritonitis setting in.

As seen at operation the colon is often purple or even purple-black, but it is not, because of its colour, therefore dead, and will, when untwisted and the veins relieved in most cases recover.

True gangrene, on the other hand, is shown by a lack of lustre, a grey-green colour and a flaccidity of the bowel plus the presence of free gas in the peritoneum and a stench. The cause of the paralysis is the combined effect of—

(1) The mechanical injury to the nerves produced by the twisting.

(2) The vascular interference, and—

(3) The enormous distension of the gut with gas.

It is not surprising, therefore, that when the twist is uncurled the bowel is unable to empty itself, and that a stout, wide, rectal tube of rubber has to be passed and the bowel gently massaged from above downwards. The bowel does not recover its power and tonicity all at once. Subsequent to the operation tympanites frequently recurs and is a dangerous and a distressing condition, which is best dealt with by turpentine enemata and subcutaneous injections of pituitrin and eserine. The giving of morphia to relieve the distress is dangerous.

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Symptomatology.

The symptoms of volvulus, as they occurred in our cases, are in sharp contrast to the accounts given in books, which are based on its occurrence in the mentally sound. In our cases, the amount of upset and distress was small and the patients were unable to help with a history. The symptoms are pain, vomiting and collapse.

Pain, the earliest symptom, was sometimes absent throughout, or at least not complained of. When present it is sudden in onset, stabbing, and fairly well localized over the site of the twist. It is of a colicky nature. When it ceases it is a bad sign, and means paralysis and approaching death of the bowel.

Vomiting was not common at all. It occurred in three of the eleven cases. For this reason an anæsthetic is taken well and there is no trouble with a gushing fæcal vomit, as occurs in other forms of obstruction, but what is common is eructation.

Collapse is not severe, and exists only in proportion to the duration of the twist. It comes on late, and is due to intoxication and infection from decomposing and stagnating bowel contents.

General signs are: Interference with respiration, slight rise of temperature, increase in pulse-rate and furred tongue.

The signs of most importance for diagnosis are:

(1) Tremendous distension of the abdomen, which is tympanitic.

(2) Absolute constipation.

(3) Ballooning of the rectum.

(1) The abdomen is very tense and the tympanites obliterates even the liver-dullness. Volvulus is the only condition which gives rise to this sudden tremendous distension. No waves of peristalsis are seen, and no abdominal contents, anatomical or pathological, can be palpated. The abdomen is like a huge drum, and as tense as a strangulated hernia. It is obvious that examination generally and percussion in particular must be carried out gently to prevent injury to the bowel, which is stretched and distended to the point of bursting.

(2) Constipation in volvulus, as in other examples of acute intestinal obstruction, is complete. Enemata are returned clear and without flatus, or else they are retained altogether. A point to observe is that when the diagnosis has been made definitely it is not wise to persist in giving turpentine enemata in the hope that something will happen to undo the twist. Enemata only distress the patient and irritate the gut, which is not in a condition to withstand any injury whatever.

(3) Ballooning of the rectum is a very useful sign of absolute

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constipation and of some assistance in the diagnosis of volvulus. It is a minor sign, but one not to be despised.

The Mechanism of Volvulus.

The mechanism of volvulus is probably something as follows:

The upper loop of a coil of bowel—the sigmoid—falls into the pelvis and drags on its mesentery, which is thereby lengthened. In addition to this there is a process of chronic inflammation of the mesentery, which contracts its base and approximates, in time, the two ends of the coil.

The condition probably remains like this for months or it may be years with, as a rule, a general visceroptosis, which is due to a general muscular asthenia and loss of tone. This is apparent from the physique of the patients, who may be thin and of light weight, but have protuberant pendulous abdomens. This observation is confirmed at operation, when it is found that the muscles of the abdominal wall are very thin indeed, and difficult to stitch securely. When this condition is established it only takes a muscular spasm to produce rotation or twisting of the coil. The exciting cause is, as a rule, constipation with or without the giving of a strong purgative, which produces violent irregular peristaltic action on a loaded colon.

The constipation is largely due to neglect to respond to that sensation of distension of the rectum which is the natural stimulus to defæcation. What was at first neglect becomes inability, because not only is a greater degree of distension (which is, in fact, constipation) required to produce the necessary stimulus, but there seems to be present in these cases a defective nerve control to the bowel, causing lack of tone. Those who have suffered from volvulus once before have this lack of muscle-tone aggravated by the overstretching of the colon; the muscle of the colon does not fully recover from the stretching, but remains in a state of atonic bagginess which causes overloading; hence the liability to recurrence of volvulus in these cases.

Results.

The results are interesting and instructive. The number of patients was eight and the number of cases of volvulus eleven, *i.e.*, in three patients the condition recurred. Six were operated on, three of them twice; two were not operated on at all, *i.e.*, nine operations. The first operation was successful in each case. But the outlook is precarious because of the liability of the condition to recur, and if it does so the prospect of a successful result is very poor.

In the case of those operated on a second time, only one has survived the operation more than three weeks. This patient is alive, after two and a half years, and is still in the hospital.

Of those who have had the condition once, one is living and is now at Lancaster Mental Hospital, and Dr. Sephton tells us she is free from abdominal trouble except for tenderness of the scar, but she had a partial recurrence before transfer.

Another, a man, died recently, after two and a half years. He had a fistula from a week after the operation until he died.

The third and last patient is living and still here in Prestwich.

These results compare very favourably with those taken from published statistics of the London Hospital, where, in a series of

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twenty-seven cases, occurring over a period of thirteen years, only two recovered, *i.e.*, their mortality-rate was 93%. The deduction to be made from this is that the thing that matters is early diagnosis and immediate operation. As already pointed out, bowel paralysis permits of germ migration through the bowel-wall to cause peritonitis and death. In one of the two cases of our series, which died after his second operation, fatal delay had occurred.

A corollary to these observations is that the nursing staff must be instructed to report at once any abdominal swelling, for it must ever be remembered that the condition is most likely to occur in the demented type of patient, who either cannot or will not complain, and operation must not be delayed until the patient complains. The death of the other patient, after her second operation, was due to infection of the abdominal wound, from the patient soiling herself continuously, and interfering with the wound, in spite of special nursing.

It is very important, if possible, at the operation, to anchor the viscera by means of special stitching to effectually render recurrence unlikely. As already explained, there is a general visceroptosis, loss of muscle-tone, and to attempt to remedy this completely at the emergency operation would not only be a tremendous undertaking of doubtful value, but would unquestionably endanger the life of the patient. For it must be realized that to untwist the volvulus, the entire length of small intestines and a great extent of the large bowel have to be allowed to escape from the abdominal cavity, and the task of anchoring the colon in places is not practicable. The sphere of usefulness of operation is, therefore, limited. The best that can be done is to observe the case specially in a ward with few patients in it, and to make sure the patient has a regular daily action of the bowels by the use of a gentle laxative, if need be, such as pulv. glycerrhiz. co. 3j nightly. An enema should be given twice a week.

A surgical belt to brace up the abdomen is useful, but this demands intelligent application. One patient who had such a belt could not be induced to wear it properly.

Another important measure is to diet the patient, paying special care to avoid potatoes and too much bread. There is no objection, however, but much in favour of green vegetables and fruit.

Conclusion.

There is always the temptation (to be avoided) of translating pathological facts into mental terms. Although there is correlation between structure and function when dealing with an organ, it is

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ɔther matter to assess the relationship of body to mental disorder. at there is a relationship no one will dispute, but its nature or ːent is a mystery.

What does seem an established fact is that cœnæsthesia, *i. e.*, ː fusion of all bodily stimuli into one harmonious whole, is the ɜis of well-being; that the viscera take a large part in the mation of cœnæsthesia; that cœnæsthesia normally is not noticed a person, but any rise or fall in its intensity is felt,and is accomnied by a corresponding alteration in emotional tone.

Now the mental patients who suffer from volvulus are of either ː demented or the hypochondriacal type with false interpreːions of visceral sensations.

Mentally these patients are dull, confused, possess a slow reːion time, are inert, lacking in initiative and mental energy, of or memory for both recent and past events.

Physically they are slow, lumbering and clumsy in their moveːnts, suffer from muscular asthenia and visceroptosis, and do not ssess much energy.

With them the mental and physical seem to be counterparts to ːh other and to point to a defective innervation of the body as a ıole.

The brain as organ of mind is working sluggishly, the muscuure of the limbs and of the bowels is working feebly and causing a ɜvering of cœnæsthesia and emotional tone, and their mental outlook thereby rendered blank and colourless—which is dementia.

Details of Cases.

No. 1.—A. L—, female, æt. 50, single. She had been in the hospital five years en she developed volvulus of sigmoid on 14.3.24; operated on same day by . Gow, F.R.C.S. Mental condition very confused, sluggish and stupid; shows interest in anything; memory poor; disorientated for time and place. lvulus returned on 8.5.27; operation performed by Dr. Logan within six hours onset. Bowel had to be incised before reduction possible. Pitibulin 1 c.c. ːen twice, also eserine $\frac{1}{75}$ gr. given twice in the succeeding twenty-four hours. ɜd on 24.5.27.

No. 2.—A. C—, female, æt. 44, single. Admitted to Prestwich eight years ːviously, and during all that time was depressed, with ideas of reference and agined people followed her; confused, slow and unable to converse. History being dull at school. Volvulus of sigmoid developed on 7.2.25; patient erated on same day by Dr. Logan. Patient up and about on 4.3.25. Volvulus ːurred on 20.9.25; operated on by Dr. Logan. Pituitrin 1 c.c. and eserine $\frac{1}{75}$ given. Patient has attacks of abdominal distension from time to time d she is very constipated. She received an enema twice a week and pulv. ʳcerrhiz. co. 3j nightly. Mental condition unimproved.

No. 3.—J. M—, male, æt. 35, stonemason, single. Developed volvulus on .5.24, twelve years after admission. Mental condition: Delusional insanity; ıcied people were spreading bad reports about him and so preventing him from ːting employment; very solitary and suspicious, and doubts the genuineness letters sent him by his friends. Says he has been brought here in mistake for nebody else. Patient operated on 30.5.24 by Dr. Logan. Volvulus recurred 3.7.25 and operation performed by Mr. Gow, but patient died on 10.7.25. ː also suffered from silicosis and bronchiectasis.

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No. 4.—A. G—, female, æt. 32, married. Developed volvulus on 4.4.24, four years after admission; operated on by Mr. Gow. Mental condition: Delusional insanity, sullen, morose and uncommunicative; smiles childishly; says people have spread false rumours about her for years. At times becomes confused and depressed, becoming more simple-minded; laughs to herself and has auditory hallucinations. Threatened return of volvulus on 28.4.25, relieved by enemata. Transferred to Lancaster Mental Hospital on 23.9.25.

No. 5.—H. S—, male, æt. 47, single. Developed volvulus on 20.5.25, two years after admission. Mental condition: Delusional insanity—says he know show to cure all disease and that he has been appointed to the medical staff; he talks to himself and hears imaginary voices. Becomes very depressed at times and complains of his abdomen in a fantastical manner. After operation stitches of wound cut through owing to patient's continual coughing, and a fistula was formed. Patient lived two and a half years.

No. 6.—K. H—, female, æt. 57, married. Has been admitted to mental hospital eight times since 1914. Developed volvulus on 22.10.27, one year and two months after admission. Mental condition: Confusional insanity—very dull and confused, unable to answer simple questions, auditorily hallucinated, disorientated as to time and place; has to be fed, washed and dressed. Operated on by Mr. Gow. Still in Prestwich (1).

No. 7.—G. A. B—, male, æt. 58, single. Developed volvulus, but was not operated on, and died. Patient had been in Prestwich Mental Hospital 4 years and 9 months. Mental condition: He had been in a state of profound dementia since admission, and in poor physical condition.

No. 8.—L. D—, female, æt. 39, single. Developed volvulus five years and five months after admission, but not operated on and died. Mental condition: Delusional insanity with ideas of reference and persecution: accused someone of always interfering with her intestines.

We are much indebted to Dr. Blair, Medical Superintendent, for permission to publish the notes of these cases.

(1) Patient was discharged on February 18, 1928.

The Mongol: A New Explanation. By R. M. Clark, M.B.Edin., Medical Superintendent, Whittingham Mental Hospital, Lancashire.

It is now nearly sixty years since Langdon-Down first distinguished the mongol, and it must be admitted that to-day the ætiology of this type of idiot is as obscure as ever.

Disease of the thyroid gland is known to cause three of the most distinctive pictures in medicine: (*a*) Myxœdema; (*b*) its congenital form cretinism, caused by hypothyroidism; and in contrast (*c*) exophthalmic goitre, caused by hyperthyroidism. In my view it is possible to add a fourth type, the mongol, which I believe to be a congenital form of exophthalmic goitre. If not, we may ask where is the congenital hyperthyroidic infant?

Very little is known of the effect of hyperthyroidism on the fœtus of the mammal except that it causes death. Striking differences are discernible between the mongol and the product of congenital hypothyroidism, *e.g.*, the cretin has not the abundance of hair, the physical agility, the bright vivacious manner and the lively emotions common to the mongol and to the

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hyperthyroidic individual. On the other hand, few similarities between exophthalmic goitre and mongolism are obvious.

Hyperthyroidism in the adult causes protrusion of the eyeballs, Moebius's sign, throbbing heart and blood-vessels, altered muscle tone, muscle tremor, sympathetico-vascular changes in the skin, hair changes and altered metabolism, and were such a condition to exist in a rapidly developing fœtus and cease at birth—even as a sudden and complete remission may occur in exophthalmic goitre—the resulting infant would, I believe, at birth present the features of mongolism. In support of such a theory, one must bear in mind the responsiveness to environment and altered conditions during growth, especially rapid growth, of all structures, including muscle, tendons, vessels, glands, skin, etc.

Thyroid has a definite action on the development of muscle, and on the tone of voluntary muscle and muscle of the hollow viscera, including stomach, intestines and blood-vessels, and it is conceivable that antenatal hyperthyroidism causes the general muscular hypotonus and explains the pot belly, hernia, over-flexibility of the limbs and low blood-pressure of the mongol.

On a closer examination of this problem on the above lines it seems remarkable and more than a coincidence that in both conditions so many similar points are attacked, even although the results of the attack differ. In exophthalmic goitre one finds eye, heart, blood-vessel, skin and hair changes and altered metabolism, and in the mongol one finds changes in the same structures with stunted growth, resulting from altered metabolism.

A more careful examination of one of these abnormalities, *viz.*, the condition of the eyes—a characteristic feature in both diseases—reveals the reason for the different results. If protrusion of the eyeballs existed during intra-uterine life prior to, during and after the formation of the palpebral fissures, there would result stretching of the coverings of the eyeballs and of the developing ocular muscles and pressure on the eyeballs. At the same time the skin and tissues are more elastic in the vertical than in the horizontal line—corresponding to the line of the less extensile palpebral margins. This would account for such features found in mongols as the thin eyelids, the high arched eyebrows, small eyes and liability to polar cataracts, and the defective and falling out eyelashes. Stretching of the tissues over the bridge of the nose would explain the absence or ill-development of the nasal bones with flattening of the bridge of the nose, and the stretch and pull from this region would account for the short squat nose, while the retraction of the point of the nose would explain why the nostrils look forward and are narrowed. The increased intra-orbital pressure would

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explain the thinning of the bones lining the orbital cavities, and if protrusion of the eyes ceased at birth—as it ceases in a remission in exophthalmic goitre—the resulting slackness would account for epicanthus, strabismus and rolling movements of the eyes. The stretched eyelids would ill fit the eyeballs, germs and dirt would be harboured, and cause the blepharitic and other inflammatory troubles so common in mongols. In later years growth would take up the slack; strabismus and epicanthus would gradually improve, as they do when the mongol grows up. It is possible, too, that the slanting eye so characteristic of the mongol may be explained by antenatal hyperthyroidism causing eyeball protrusion and contraction of Landstrom's muscle in the fœtus. It appears to me, then, that hyperthyroidism has been at work on the fœtus that becomes a mongol.

It is agreed that the mongol presents other characteristic features: it is undersized and of stunted growth, it shows resemblances to former ancestors, it is an " unfinished child," and its mental development shows a parallelism with its physical development. These characters are the result of changes in the eyes, the hands and the feet, the vertebral column, skull and brain—those parts, indeed, which are concerned respectively with stereoscopic vision, with skill, increasing tactile sensibility and discrimination in the hands, and the erect posture, all of which, Elliot Smith has shown, have played the recent and all-important part in the great increase in the growth of the neopallium and in the evolution of the brain. In the mongol ontogeny has stopped short at a late stage in the life-history of the human fœtus, and yet development has gone on to maturity and viability.

The cause of mongolism, then, should account for the features just mentioned, and the following experiments show that hyperthyroidism can account for them: (1) Thyroid fed to tadpoles causes protrusion of the eyes. It also causes metamorphosis to occur prematurely, so that it is possible to obtain diminutive frogs only one-tenth the length of normal frogs. (2) Thyroid fed to axolotls increases metabolism by 35%, body-weight decreases and skeletal changes occur. (3) Thyroid fed to pregnant bitches, rabbits and guinea-pigs causes injury and death of the fœtus. (4) Thyroid accelerates maturing of spermatoblasts, and in larger doses causes degeneration and death, with fatty changes and increase in cholesterin. In consideration of the above facts, I submit the theory that hyperthyroidism has a similar action on the human fœtus to that which it has on the tadpole. The effect may (as tissue culture experiments suggest) result from increased metabolism with more active cell division preventing differentiation—in this case,

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the latest parts to differentiate suffering. It brings the human fœtus to precocious maturity—light in weight, short in stature, stunted in growth and often premature—like the diminutive frogs. As with the tadpoles, the latter part of ontogeny has been cut out and the fœtus brought to maturity when it is recapitulating a late stage in its ancestral history—an "unfinished child" with its "likenesses," "retrogressive features" and anthropological explanations. In fact such an infant would be in accord with what is known of the mongol, including the frequency of congenital heart affections and of cryptorchidism.

Fœtal hyperthyroidism might account for the defective or deficient thyroid glands sometimes found in mongols, even as the thyroids of thyroid-fed tadpoles are smaller than in controls. So the mongol's neck may show no signs resulting from a swollen fœtal thyroid, and we have an explanation for the myxœdematous manifestations occasionally met with in mongol children and mongoloid adults. Hypothyroidic signs are more frequently found in mongoloid adults than in mongol children, the reason probably being that, as in the tadpole, the relative sizes of the thyroid and the whole body determine thyroid balance, and so the mongol's thyroid is sufficient for its small and stunted body, but the mongoloid's thyroid is insufficient for its normal-sized body. My view is that hyperthyroidism, affecting the fœtus *in utero*, is the cause of mongolism. The hyperthyroidism may be maternal or fœtal in origin, and I take it to include over-susceptibility of the embryo to thyroid hormone and over-elaboration of thyroid hormone, owing to the capacity of other tissues of the body to produce it from iodine or other substances.

The two explanations given for the eye condition, (*a*) eye protrusion in the fœtus, and (*b*) the arrest of evolution—are conflicting only on the surface. In hyperthyroidism in the fœtus, protrusion of the eye occurs as it does in the tadpole, and this complicates the changes in that region in the mongol. A point in favour of this theory is the observation that many mothers, during the war, attributed the birth of mongols to fright during air-raids. A further factor present in some cases may be the deprivation of light, for a higher percentage of mongols is said to occur in the population of large fog-screened cities. Hence light treatment, which is beneficial in exophthalmic goitre, may possibly be of value in the prevention of mongolism.

The theory here postulated may apply to negroid and other types of imbeciles, for in Graves' disease exophthalmos does not always occur. It raises interesting questions, *e.g.*, evolution has already brought round the eyes from the side of the head, as in the fish,

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to the front position in man, thus attaining recently acquired stereoscopic vision. Has not this change been brought about by diminishing action of thyroid on the fœtus and weakening of the pull on Landstrom's muscle, which, in adult hyperthyroidism, gives rise to Mœbius's sign? Myopia is widely prevalent amongst the human species, and recently has been shown to be caused by the slight divergence of the eyes. The inner muscles of the eyes in trying to correct this are subjected to strain which produces myopia. Many cases of myopia are now being reduced and many others have been entirely cured by the use of prismatic glasses, which restore the parallelism, and allow the eyes to remain in their natural slightly divergent position.

May not this divergence of the eyes in myopia be due to an incompleteness of this most recent attainment of evolution, and result from antenatal hyperthyroidism causing contraction of Landstrom's muscle in the fœtus?

Other conditions as well as mongolism, *e.g.*, fœtal monstrosities, have by some authorities been attributed to endocrine disturbances, by others to "reversion." It is more likely that a theory which incorporates both views is the correct one, and if thyroid acts on the human fœtus, when ontogeny is at the gill stage, in a similar way to its action on the gill stage of the frog, monstrosities can easily be explained. In view of the fatty and cholesterin changes brought about in spermatoblasts by thyroid it is possible that hydatid mole is an analogous condition. The problem of the mongol and the thyroid is wrapt up with the problem of evolution and of gland balance. Positive proof of my view seems as yet impossible, and no excuse is required for the speculative nature of the views expressed in this paper, which, if not immediately acceptable, will be of use if they call attention to the application to general medicine of some of the findings of experimental embryology, tissue culture and thyroid feeding.

Bacterial Change in Mental Disorder: Preliminary Note on Morgan's Bacillus. By F. H. STEWART, M.A., D.Sc., M.D., D.P.M., Major, Indian Medical Service (retired), Cheddleton Mental Hospital.

IN a previous communication (*) it has been shown that among intestinal bacteria of the coliform group *Bacillus paracoli* and *Bacterium coli mutabile* are at least four times more common in the insane than in the general community, and that they are to be

* *Vide* "Bacterial Changes in Mental Disorder: Coliform Group," by the same author, *Journ. Ment. Sci.*, 1928, p. 59.

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found in great number in at least one-half of the former during acute phases of illness. It was suggested that both the illness and the increase of these bacteria might be due to a third factor, namely, to the action of some other intestinal organism, since certain workers had found that colon bacilli when grown on phenol varied to the *mutabile* type, and it is well known that phenol is formed in the intestine by certain bacteria.

Following up this suggestion, and in the first place considering Tissier's statement (*Bull. Inst. Pasteur*, p. 363, 1923) that *B. lactis aerogenes* and *B. aminophilus* produce phenol, the question was investigated whether *paracolon* and *mutabile* occurred in greater number in stools which contained many saccharose-fermenting bacteria. No such association was found, and at the same time none of the strains of *B. lactis aerogenes* isolated in this laboratory were found to yield phenol.

In the second place the question was examined whether the natural mixture of bacteria present in fæces produces phenol in cultures containing tyrosine. (Tyrosine fluid cultures were inoculated direct from the stool, incubated two days, distilled and tested.) Out of 101 specimens examined (from 69 persons), 95 gave phenol and only 6 did not; of the 95 positives 71 were from mental patients and 24 from sane controls, while of the 6 negatives 4 were from patients and 2 from controls. There was, therefore, no difference so far between the sane and the insane. But cultures from some of the patients gave higher phenol readings than any from the controls; of 41 cultures with phenol above 0·015% 40 were from the former and only 1 from the latter.

The next step in the investigation consisted in plating out the bacterial mixtures in the above primary cultures, and in trying to isolate the bacteria which were responsible for the phenol production. In this we were successful in specimens from only 17 individuals.

The bacteria isolated belonged to the following species:

Bacillus Morgani (No. 1, Morgan, 1906) from 14 individuals, of whom 12 were patients and 2 were controls.

Bacillus phenologenes (Berthelot, 1918) from 3 individuals—2 patients, 1 control.

Bacillus paracoli (Gilbert and Lion, 1893) from 1 patient.

(In all, 325 isolated strains were tested, of which 28 produced phenol.)

B. Morgani was found in the stools of 12 out of 48 mental patients (25%), and of 2 out of 21 sane controls (9·5%); of the 2 neither was in robust health, and both were attendants who were constantly exposed to infection from their patients. None of the

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individuals examined was suffering from diarrhœa, and 3 of the 12 patients were recent admissions in whom asylum infection was not likely to have taken place. Animal experiments also showed that the strains isolated from our cases had no specific action on the bowel, and that in this they differed emphatically from Morgan's original strain in the National Type Collection.

B. phenologenes, Berthelot, is merely a collection of strains belonging to the colon group (*B. acidi lactici*, *B. coli communis*, *B. lactis aerogenes* and *B. coli communior*), which have this character in common that they can form phenol from tyrosine. It was found in 2 out of 48 mental patients, and in 1 out of 21 controls, but the latter was a young man who had recently spent several weeks in bed with a broken leg.

To come directly to the question whether the bacteria, *B. Morgani* and *B. phenologenes*, can be held responsible for the mental illness of the patients, we will firstly consider previous literature. *B. Morgani* has, as far as I am aware, been recorded only from cases of diarrhœa and dysentery. Phenol-producing bacteria, while they produce phenol from tyrosine in alkaline media, form tyramine in the presence of carbohydrates when the medium goes acid (Hanke and Koessler, 1924). There is, of course, an extensive literature on the *rôle* of amines in the production of disease, with which I will not deal at present.

The only satisfactory proof that an organism is the cause of a disease is the cure of the disease by removal of the organism, but of course many such cures must take place before the proof can be complete. In this hospital 65 cases have so far been treated with autogenous Morgan vaccine. There seems little doubt that efficient vaccination will remove the bacterium in question, but to be effective the vaccine must be given intravenously after a short hypodermic course.

Brief notes of these 6 cases will now be given.

(*In what follows "phenol %" means the percentage of phenol in a tyrosine bouillon culture inoculated from fæces and incubated for two days. "Agglutination" is the reaction of the patient's serum to his own B. Morgani.*)

Case 1.—Male, æt. 15, admitted 10.xii.27. Typical dementia præcox; he is dull, cannot concentrate, very slow in answering, introverted, mischievous and sly, hallucinated and with delusions of poisoning; very pale in the face, mitral systolic murmur; weight 43 kilos. Duration of illness two months. Causes—too heavy work and neurotic heredity.

13.xii.27: Phenol 0·02%. *B. Morgani* present, from which a vaccine is made.

5.i.28: Agglutination negative. Mentally unchanged. Weight 42·3 kilos.

9.i.28: Phenol 0·008%. *B. Morgani* not found. Vaccine ½ c.c. hypodermically. Marked local reaction.

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16.i.28: Vaccine 1 c.c. hypodermically.
19.i.28: Phenol 0·003%. *B. Morgani* not found.
27.i.28: Vaccine ½ c.c. intravenously; reaction to 100·8° F.
31.i.28: Blood count—reds 4,790,000, hæmoglobin 79%, leucocytes 8,600. Weight 45·9 kilos.
2.ii.28: Agglutination 1/125.
4.ii.28: Vaccine ½ c.c. intravenously; reaction to 100·8° F.
9.ii.28: *B. Morgani* present.
11.ii.28: Agglutination 1/1000.
22.ii.28: Phenol 0·025%. Vaccine 1 c.c. hypodermically.
29.ii.28: Phenol 0·004%. *B. Morgani* not found. Vaccine 1 c.c. hypodermically. Mental improvement begins. Weight 50·3 kilos.
7.iii.28: Vaccinated 1 c.c. hypodermically.
19.iii.28: Practically normal in mind. Good colour in face; organic mitral murmur still present. Working in garden. Weight 51 kilos.

Case 2.—Male, æt. 26. Admitted 23.ix.27. Dementia præcox; dull, nearly mute, apprehensive, refuses food, some echolalia; bodily, ashen grey complexion, trace of albumen in urine.
23.x.27: Horrible smell from mouth although no gum or throat disease. Weight 55·7 kilos.
25.x.27: Four epileptiform fits; vomited repeatedly; temperature 102° F.
29.xi and 2.xii.27: Phenol 0·02%. *B. Morgani* present; vaccine made. 53 kilos.
16.xii.27: Constant violent attempts to escape. Pallid and unhealthy.
19.xii.27: Agglutination negative. Vaccine ½ c.c. hypodermically.
24.xii.27: Vaccine hypodermically, 1 c.c.
31.xii.27: Vaccine 2 c.c. 53·6 kilos. Mentally quieter, better colour in face, no ozæna.
2.i.28: Phenol 0·008%. *B. Morgani* not found.
7.i.28: Agglutination 1/50. Vaccine 2½ c.c. hypodermically.
14.i.28: Phenol 0·001%. *B. Morgani* not found.
16.i.28: Vaccine 1 c.c. intravenously; reaction to 103·2° F.; albumen and casts in urine for 36 hours.
23.i.28: Vaccine 1 c.c. intravenously; reaction to 100·8° F.
30.i.28: Agglutination 1/1000. Much less troublesome; working. 53·8 kilos.
13.ii.28: *B. Morgani* not found. Works outside under supervision.
23.ii.28: Phenol 0·003%. *B. Morgani* not found. Vaccine 1 c.c. hypodermically.
27.ii.28: Phenol 0·002%. *B. Morgani* not found.
29.ii.28: Vaccine hypodermically, 1 c.c. Weight 60 kilos.
3.iii.28: Phenol 0·001%. No further mental improvement.
5.iii.28: Phenol 0·004%.
8.iii.28: Vaccine hypodermically, 1 c.c.
13.iii.28: Vaccine intravenously, ½ c.c.; no febrile reaction, but marked excitement for 24 hours.
20.iii.28: Vaccine ½ c.c.; reaction to 99·4° F. Has quite lost ashen-grey septic complexion.

Case 3.—Male, æt. 23. Admitted 1922. Recurrent mania; periods of excitement lasting 10–14 days with intervals of 7–22 days; during intervals slightly weak-minded.
28.xi.27: 17th day of an interval; phenol, % *nil.*
4.xii.27: Manic relapse begins.
7.xii.27: Phenol 0·02%. *B. Morgani* present. Vaccine made.
15.xii.27: Manic relapse ends.
19.xii.27: Phenol 0·001%. *B. Morgani* not found.
31.xii.27: Weight 54 kilos.
4.i.28: Manic relapse begins.
5.i.28: Agglutination negative.
7.i.28: Manic relapse ends.
9.i.28: Vaccine ½ c.c. hypodermically; marked local reaction.
16.i.28: Vaccine 1 c.c.
18.i.28: Phenol 0·003%. *B. Morgani* not found.

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21.i.28 : Vaccine 2 c.c.
22.i.28 : Manic relapse begins. *B. Morgani* not found.
27.i.28 : Vaccine ½ c.c. intravenously; reaction to 102°6° F., with profuse outbreak of herpes around mouth and on right temple. 52·8 kilos.
2.ii.28 : Agglutination 1/500.
4.ii.28 : Vaccine 1 c.c. hypodermically.
11.ii.28 : Manic relapse ends. Agglutination 1/1000. *B. Morgani* not found.
20.ii.28 : Phenol 0·006%. *B. Morgani* not found.
27.ii.28 : Manic relapse begins.
27.ii.28 : Phenol 0·035%. *B. Morgani* not found. *Proteus anindologenes* present, which, however, does not form phenol.
29.ii.28 : Agglutination 1/500. Weight 53·5 kilos.
2.iii.28 : Phenol 0·02%.
3.iii.28 : Manic relapse ends.
5.iii.28 : Vaccine ½ c.c. hypodermically.
8.iii.28 : Phenol 0·0005%. *B. Morgani* not found; *Paracolon phenologenes* present.
10.iii.28 : Vaccine ½ c.c. intravenously; reaction to 101·4° F.
15.iii.28 : Vaccine ½ c.c. intravenously; reaction to 99° F.
20.iii.28 : Agglutination 1/1000. Weight 51·3 kilos.

Case 4.—Male, æt. 27. Admitted 17.ii.28. Melancholic dementia præcox. Was invalided out of the army in 1920 for neurasthenia, tremulous, frightened, with præcordial pains; has been the same with ups and downs since. Leg broken in accident xi.27; two and a half months in hospital; became suicidal.
On admission intensely suicidal; face extremely pallid; unconsolidated fracture of leg. Weight 50 kilos.
20.ii.28 : Phenol 0·02%. *B. Morgani* present; vaccine made.
23.ii.28 : Phenol 0·03%. *B. Morgani* present.
7.iii.28 : Vaccine ½ c.c. hypodermically; reaction to 100° F., and marked local.
12.iii.28 : Vaccine ½ c.c. hypodermically; reaction to 102·2° F., and marked local.
14.iii.28 : Phenol 0·0002%. *B. Morgani* not found; *B. pyocyaneus* present.
20.iii.28 : Has been sleeping better, less emotional, not suicidal, less pallid in face. Agglutination 1/50.
22.iii.28 : Vaccine ½ c.c. hypodermically; no reaction.

Case 5.—Male, æt. 28. Insanity with epilepsy since age of 14. Muddy septic complexion. Number of fits in successive months of 1927: 8, 3, 4, 3, 9, 8, 9, 5, 10, 15, 6, 1.
16.i.28 : Phenol 0·008%. *B. Morgani* not found. Fits during January, 0.
10.ii.28 : *B. Morgani* present; vaccine made.
23.ii.28 : *B. Morgani* present; phenol 0·03%.
27.ii.28 : *B. Morgani* present; phenol 0·06%.
29.ii.28 : Vaccine ½ c.c. hypodermically. Fits during February, 11.
5.iii.28 : Vaccine 1/10 c.c. intravenously; no reaction. Phenol 0·03%. *B. Morgani* not found.
10.iii.28 : Vaccine 1/5 c.c. intravenously; reaction to 101·2° F.
15.iii.28 : Vaccine ½ c.c. intravenously; reaction to 102·2° F.
20.iii.28 : Agglutination 1/500. Complexion less muddy and septic. Fits during first three weeks of March, 15.

Case 6.—Male, æt. 57. Admitted 19.i.28. Melancholia, 3 months' duration. Trace of albuminuria; arteries not palpable.
24.i.28 : *B. Morgani* present; vaccine made.
7.ii.28 : Vaccine ½ c.c. hypodermically.
9.ii.28 : *B. Morgani* present.
16.ii.28 : Vaccine 1 c.c. hypodermically.
21.ii.28 : Phenol 0·02%.
22.ii.28 : Vaccine 1 c.c. hypodermically.
29.ii.28 : Vaccine 1 c.c. hypodermically. Phenol 0·02%. *B. Morgani* not found.
8.iii.28 : Vaccine $\frac{1}{10}$ c.c. intravenously; reaction to 99° F.; small amount of albumen and hyaline casts in urine.

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15.iii.28: Vaccine $\frac{1}{10}$ c.c. intravenously; reaction to 102·4° F.; some albumen and casts in urine for 48 hours.
20.iii.28: Agglutination *nil.* Patient up and about, but little change mentally.

The remaining cases in which *B. Morgani* was found but which have not been treated by vaccine are as follows:

Post-traumatic delirium, 1; manic-depressive insanity, 2; melancholia, 1; acute dementia præcox, 1; imbecility with epilepsy, 1.

Of the 6 cases treated by vaccine 5 have responded by forming agglutinins. Of these, 1 has recovered mentally, 1 shows marked bodily and some mental improvement, 2 are beginning to improve although still in the early stages of treatment; 1 (Case 3) is doubtful. One case (No. 6) has not formed agglutinins, but his physical condition makes it impossible to push the vaccine; he shows little mental change.

Characters of the Bacteria Isolated.

Bacillus Morgani.—Very fine, Gram-negative cocco-bacilli, forming dewdrop colonies ½ mm. in diameter on McConkey or agar plates after twenty-four hours' incubation. In sugars they give acid slight gas in glucose, lævulose and galactose; no change in lactose, saccharose, maltose, mannite or dulcite; alkali in litmus milk. Some strains give no acid in glucose, but these are serologically identical with others from the same patient, which give acid and gas. Indol and phenol are formed from peptone, and phenol from tyrosine.

Virulence and toxicity.—Living bacteria kill a mouse in a dose of 0·04 c.c. of a forty-eight-hour bouillon culture. Endotoxin: The dead bodies of the bacteria are toxic to the individuals who carry the bacillus, as will be seen from the records of vaccination given above. There is some indication of idiosyncrasy, as in Case 4, where a second hypodermic injection of ½ c.c. caused marked local reddening and a temperature of 102·2° F., although ¼ c.c. hypodermically seemed to have no effect on a mouse. One sixteenth part of a three-day agar 10 cm. plate culture, killed, ground, filtered through paper and injected intravenously, killed a large rabbit in forty-eight hours. Soluble exotoxin: Cultures in tyrosine bouillon with marmite, of our local strains and of Morgan's original strain from the National Type Collection, were incubated for one month and filtered through Berkefeld candles. The N.T.C. culture was injected in 10 c.c. doses to two guinea-pigs and caused blood-stained diarrhœa; one animal died, the other recovered after a month; 1 c.c. doses caused similar diarrhœa in two mice. The filtrate from the local strains was given in 10 c.c. doses to three guinea-pigs, of which one died in five hours; the other two were manifestly ill; there was, however, no diarrhœa or blood.

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Technique.

The best method of isolating the bacillus appears to be as follows: Inoculate a tube of tyrosine bouillon from the fæces and incubate forty-eight hours; plate this culture on maltose-mannite McConkey's medium and pick off any small white colonies.

Estimation of Phenol.

I am indebted to my friend Mr. Robison for advice as to the demonstration and estimation of phenol in cultures. The method is as follows: The culture is distilled over into a test-tube and tested with Millon's reagent, which gives a red colour on heating if phenol is present. If a series of standard dilutions of phenol are made and treated in a similar manner with Millon's reagent, the percentage of phenol in the distillate can be estimated by colour comparison.

I wish to acknowledge my indebtedness to Mr. W. F. Gifford, senior assistant in this laboratory, for great help in the investigation described, not only in the daily cultural and experimental work, but in the manufacture of the tyrosine, which formed our principal medium.

Summary.

(1) If a tyrosine bouillon tube is inoculated with fæces from a healthy person, incubated for forty-eight hours and distilled, it will be found to contain phenol of not more than 0·008%, or at the most 0·015%. If, on the other hand, similar cultures are made from mental patients, they will contain 0·02 to 0·03% in half of the specimens examined. (It is not suggested that the phenol is of pathological importance; it is only important as indicating what bacteria are present in the culture.)

(2) At least one quarter of mental patients who are acutely ill carry *B. Morgani*; a smaller proportion carry *B. phenologenes*, Berthelot, and a still smaller proportion a phenol-producing paracolon. *B. Morgani* is the important phenol-producing bacterium of the insane.

(3) The strains of *B. Morgani* found in these cases do not cause diarrhœa, but the dead bodies of the bacteria are toxic to man, causing marked local, and in some cases general reaction, when moderate doses are injected hypodermically. After intravenous injection of minute doses they cause pyrexia, and if the dose is larger or the kidneys already diseased, a transient nephritis.

(4) As far as it is possible to judge by the very few cases treated, efficient vaccination (hypodermic followed by intravenous) can remove *B. Morgani* from the bowel. Such removal is followed by improvement in bodily health and possibly improvement of the mental condition.

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Clinical Notes and Cases.

Note on the Treatment of General Paralysis by "Apyrexial" Malaria. By F. H. STEWART, M.D., D.P.M., Major I.M.S. (retired), Cheddleton Mental Hospital.

TREATMENT of general paralysis by malaria was begun in this hospital in 1924, and forty-two cases have been treated so far. Of these, thirty have undergone the usual course of approximately twelve rigors, but as the most successful case in our series was that of a man whose blood contained parasites for twenty-seven days without any rise of temperature,* it was decided to try the effect of two short courses of malaria, stopping the attacks by quinine in doses of 30 gr. daily as soon after the first rigor as was convenient. The term "apyrexial," therefore, indicates an ideal rather than a fact; the ideal is to avoid any fever, but one or two fully developed rigors may be allowed in order to make sure that the patient actually has parasites in his blood, and for convenience in handing on the malaria. Eleven cases have been treated on this plan by two attacks consisting of not more than four rigors each. The results may be tabulated as follows:

	Cured.	Improved.	Not improved.	Died.
Series 1 (5–12 rigors)	6	10	8	6
	20%	33·3%	26·6%	20%
Series 2 (1–4 rigors twice)	3	6	—	2
	27·2%	54·5%	—	18·1%

In neither series were the cases selected, all patients diagnosed being treated except the moribund. The two fatal cases in Series 2 were both advanced and debilitated, while the six fatal cases of Series 1 included two robust men. The average number of rigors in both attacks of the nine non-fatal cases of Series 2 was six, *i. e.* three in each attack.

The results are therefore at least as satisfactory in Series 2 as in Series 1. The "apyrexial" method was, however, only begun in January, 1927, and some of the improved cases may end as cures, while some of the cures may relapse.

Mental improvement occurring in the incubation period of the

* During these twenty-seven days this man showed no sign of bodily illness except the anæmia; he was never confined to bed and was excessively lively. His temperature was consequently taken only morning and evening, and it is therefore possible that some small rises of temperature may have escaped record; he was, however, under continuous observation and no serious rise would have passed unnoticed.

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malaria has, of course, been noted by Rudolff (*Therapeutic Malaria*, pp. 25 and 53) and others.

The advantages claimed for this mode of treatment are (1) reduction of mortality and of suffering for the patient; (2) mental and bodily re-education can be begun a few days after the first attack; (3) anti-syphilitic treatment by tryparsamide or salvarsan can be combined with the malarial treatment more readily; (4) great reduction in anxiety and labour for the physician and nursing staff; the treatment is placed within the reach of the general practitioner since shielded nursing in hospital is no longer necessary.

No difficulty has been found in causing a second attack of malaria, even with the same strain of parasite; out of eight such cases all developed fever of not less than 103° F. after incubation periods varying from nine to twenty-six days. The intervals between first and second inoculations varied from thirty-three and between the first rigors of the two attacks from forty-one to one hundred and twenty days. Ten cases have received two inoculations from different strains, and all developed fever of over 101·5° F. after incubation periods of six to nineteen days.

The case referred to above as cured without pyrexia is of some interest. It may be summarized as follows:

J. G—, æt. 45, potters' artizan, admitted December 7, 1924.
Duration of illness: Slightly grandiose ideas for five years, but only stopped work three weeks before admission.
State on admission: Pupils react very slightly to light; deep reflexes active; cerebro-spinal fluid, colloid benzoin reaction paretic curve. Mentally exalted, talkative; says he bought a motor-car yesterday; occasionally violent.
Treatment and progress: December 14, 1924—inoculated with malarial blood. January 2, 1925—no rise of temperature but is anæmic, and B.T. parasites are present in large numbers in the blood. January 9th—no rise of temperature, marked anæmia. January 16—rowdy and destructive. January 23—still no pyrexia. Blood, reds, 3,650,000; hæmoglobin 60%; leucocytes 7,000, polymorphs 71%, large lymphocytes 8%, small lymphocytes 10%, large mononuclears 4%, transitionals 7%; parasites in large numbers. January 29—no fever, quinine begun; unreasonable and exalted. February 28—disorientated, exalted, destructive. May 15—exalted, but active and working well. June 15—has got rid of exaltation and recognizes that it was due to "nerves." September 2—cerebro-spinal fluid, colloid benzoin paretic, Wassermann positive in dilutions 2/1 to 1/5. September 29—is generally quiet, but is excitable, especially towards evening. November 10—apparently complete remission. November 11—discharged on trial. January 1—1926—discharged recovered. D.C.M.S. reports he can find no mental abnormality. January 20, 1928—has been in regular employment at his trade since discharge; pupils almost immobile, blood Wassermann positive.

Clinical Notes from St. Andrew's Hospital, Northampton.

Luminal in Epilepsy.

The control of epileptic seizures by luminal is now quite common, particularly in institutions, but the cure of such a severe type of case as the following may be unusual, and a few details thereon

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may be of interest to those who make a study of epilepsy and its treatment.

A male patient transferred to this hospital had been the victim of attacks of *grand mal* for a considerable period. On arrival he was in a mental state which could be classified as dementia. He was very confused, impulsive, violent, filthy in habits and obscene in his language.

His seizures were most frequent at night, and were all of the *grand mal* type. During the first week (February, 1926) he had 10 seizures, of which 8 were at night. Luminal sodium, gr. 1½ *b.d.*, was administered, and during March he had only 7 seizures in all, of which 4 were on one day. Thereupon the dose was increased to gr. 3 *b.d.*, and during April the total number was 8, and these during the day.

A diminution of the dose to gr. 1½ resulted in an increase to 26 fits in May. A second increase in the dosage resulted in a steady decrease of the fits in June and their total absence in August and September. A return to gr. 3 with pot. brom. gr. 30 at noon resulted in an immediate cessation of the seizures. The dose was later gradually reduced after stopping the bromide. Since July, 1927, gr. 1 *b.d.* has been sufficient to check completely the epilepsy.

Since October, 1926, the patient has been free from seizures. Physically and mentally he has completely changed. He has increased in weight to the extent of 12 lb. Mentally he is now alert, bright, sociable, normal in his behaviour, and has had "parole" outside the grounds for some time. I would suggest, as a result of experimenting with this severe case, that fairly large doses of luminal should be used at first (sodium preparation), morning and night, and combined with pot. brom. gr. 30 at noon. Then a gradual tapering off, beginning with the bromide.

Sodium sulphate one drachm was given every other morning early for a considerable period, and had a satisfactory effect. At the patient's request it has been continued and is now given twice weekly.

G. W. MACKAY, M.B., D.P.M.

GARDENAL IN EPILEPSY: A COMPLICATION.

A patient, æt. 67, male, suffering from epilepsy and having both types of fits, was treated with gardenal gr. 1½ daily for a period of three months with satisfactory results in the reduction of the number of fits. During the three months preceding the administration of this drug the patient had had 8 major and 218 minor fits, as compared with 3 major and 178 minor for the following three

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months when under the influence of gardenal. Previous to the use of this drug the number of fits had been progressively increasing. At the end of the second period of three months the patient developed a marked degree of œdema in both legs and some ascites. An investigation of this condition excluded the cardiac, renal and portal systems, nor was any local cause present. Blood tests for non-protein nitrogen, uric acid and chlorides gave normal percentages, and established the fact that the renal efficiency was good.

The gardenal was discontinued, the patient was kept in bed, and the dropsy disappeared in four days.

I am of opinion that the œdema was a toxic one, due to the action of the drug on the endothelial lining of the capillaries, increasing their permeability.

DANIEL J. O'CONNELL, M.B.

A Method of Nursing the Helpless and the Paralysed. By H. T. KIRKLAND, M.A., M.B., Ch.B.Glasg., Senior Assistant Medical Officer at the County Mental Hospital, Whittingham, Preston.

IT has long been recognized that one of the problems of hospital practice and of good nursing has been the treatment of those patients who, either through organic disease of the central nervous system or an advancing state of senile dementia, or the onset of one of the psychoses, have lost permanently or temporarily the control of their sphincters and are continually soiling themselves in bed. Anything which could be done for the amelioration of their unhappy lot—for some are extremely sensitive and feel their position acutely—would be welcomed by all concerned.

Some time ago, a colleague on a visit to a continental clinic brought back the particulars of a method of nursing which has been tried in this hospital and which, in my opinion, might be used with benefit in hospitals nursing cases of this kind.

The beds used are rectangular and box-like in shape, 6½ ft. long, 30 in. wide and 18 in. deep, and are constructed of 1-in. dressed boards. The box stands on legs 12 in. in height, and the whole is painted white. Castors may be fitted if desired, as in ordinary bedsteads. Dry sawdust* which will pass through a ¼-in. sieve and which is not too fine—to prevent caking—is used for filling up the box to about 6 in. from the top. Medicated sawdust, such as is obtained from pitch pine, may be substituted with advantage for ordinary sawdust.

The patient, wearing a short night-dress or shirt, lies directly on

* An improvement, certainly, on straw, which has been used in Continental asylums for many years.—[EDS.]

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the sawdust, which adapts itself to the shape of the patient's body, and acts like an air cushion or water bed. An ordinary pillow is used for supporting his head and he is covered with a sheet and blankets, as necessary, which, for appearance' sake, should not be as wide as usual, as they cannot be tucked in as on an ordinary bed. As soon as the patient is dirty, the excreta, with the soiled sawdust, are removed with a scoop and destroyed. The surface is again levelled down with the hand or a bed-stick, and fresh sawdust is added as required to keep it up to its former level. It is advisable to stir up the sawdust from the bottom periodically, to prevent caking. It is surprising, however, how little sawdust need be removed if the patient is attended to immediately he is wet.

A great deal of the success attending the use of the bed depends on the kind of patient. The senile dement, the paraplegic or hemiplegic and the quiet stuporose dementia præcox all make good subjects; but its use is contra-indicated in the very excited type of patient who attempts to cover himself with the sawdust, or in the destructive and depraved type who may eat the sawdust or throw it out of the box.

The bed has proved from experience to possess many advantages over the usual method of nursing this class of patients and possesses few disadvantages.

(1) The patient's friends recognize its value when its purpose is explained; and it has the appearance of the ordinary box bed which is frequently used to nurse the very restless patient.

(2) The patient is not so liable to injure himself by rolling off as on the hospital bed.

(3) It certainly prevents the formation of bed-sores, which are so apt to develop in this class of patients, despite the most careful attention and nursing, even on a water- or air-bed. One of my advanced cases of general paralysis of the insane, who was emaciated and contracted and nursed on a water-bed, developed a large bed-sore which defied all treatment until he was placed on the sawdust bed, when it healed up within one month.

(4) It is much easier to look after than the usual water-bed, and takes up less of the nurse's time in changing the patient and ensuring his cleanliness.

(5) It promotes a wholesome atmosphere around the bed and in the ward.

(6) The heavy burden usually thrown on the laundry by the never-ending stream of soiled linen, etc., is lightened to a remarkable extent.

I have to thank Dr. R. M. Clark, Medical Superintendent, for his invaluable help in carrying out this form of treatment.

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Medico-Legal Notes.

INTERESTING information arrives from America, relating to a proposed revolutionary alteration in criminal procedure, which has been brought forward by Governor Alfred E. Smith, of New York State. The scheme may be summarized as follows: (1) The jury, in a criminal trial, should determine only the guilt of the accused person. (We presume that this means the determination of the commission of the act. For, in America, as in this country, the establishment of a criminal intention, technically known as *mens rea*, is essential if the act is to constitute a crime.) (2) The jury having returned a verdict of "Guilty," the duty of passing sentence is to be taken out of the judge's hands and given to a special State board. This board will consist of legal experts, psychiatrists and penologists. The members of the board are to be whole-time officials, and will be paid at the rate of £5,000 per annum each. (3) The board will determine whether the convicted person should go to a mental hospital, or to a prison. In the latter event, the board will decide the length of the period of imprisonment, and the conditions of possible release on parole. These proposals involve a change in the State constitution. Pending such change, Mr. Smith recommends that funds should be provided by the legislature, in order that a full investigation of the question may be taken in hand.

The establishment of such a procedure has often been advocated by American psychiatrists and criminologists. But we believe we are correct in claiming this as the first occasion upon which such a scheme has been sponsored by a prominent and responsible politician. Mr. Smith is a possible candidate for the United States Presidency.

We shall watch, with great interest, the reception of his proposal. It will be noted that the decision, as regards the treatment of a convicted offender, is not placed solely in the hands of a body of medical scientists. The proposed board would consist, in part, of legal members. This should go some way to meet the objection, which is certain to be made, that psychiatrists desire to usurp the functions of courts of law. Assuming that the scheme is adopted, its success will naturally depend upon the composition of the board. The mention of a jury would appear to imply that the operation of the scheme is limited to more or less serious cases, such as are, in this country, tried at Assizes and Quarter Sessions. But it would only be an extension of degree to apply a similar procedure to cases which are dealt with by minor courts.

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Some reports of a recent trial at Los Angeles, California, have reached us. The accused, William Edward Hickman, was indicted for the murder of a young schoolgirl, named Marian Parker. In a confession made after his arrest, Hickman stated that he kidnapped the girl in order to extort a ransom from her father, the money being wanted for the purpose of defraying the expenses of a college course. After keeping the girl in his apartment as a prisoner for two days, he murdered her, and disarticulated the body. He stated, further, that the murder was due to a sudden impulse. But he was aware that a thorough search for the missing girl was in progress, and this fact must be kept in mind. At the trial an attempt, which appears to have been unsuccessful, was made to set up a defence of insanity (dementia præcox). The usual battle of opposing experts was staged. One psychiatrist, called by the defence, informed the court that he would require to preface his evidence with a lecture, two hours in length, on the subject of dementia præcox. We are not told whether this request was granted.

There was, however, one curious incident during the trial. Dr. Paul E. Bowers, called for the prosecution, testified that Hickman was sane, and was not suffering from dementia præcox. This conclusion was based, in part, on the absence of dermatographia. The witness was called upon to repeat his test in court. "Hickman was stripped to the waist, and Dr. Bowers, with his thumb-nail, marked a large 'H' on Hickman's back and chest, explaining that in a true case of dementia præcox the scratch marks would get very red, and would stay red. Hickman was then walked up and down before the jury for several minutes, and the scratch-marks grew red, but the witness explained that they would fade away quickly. The fading did not occur, and an hour and a half later, when photographed in Hickman's cell, the marks were as red as ever." The witness then explained that the sign was confirmatory, but not certain. This public exhibition of physical diagnosis in a criminal trial is unusual, if not unique. The practice, if it became generally adopted, might have some striking extensions!

Rex *v.* James Gillon.

This man, æt. 30, was tried for the murder of his sister before Mr. Justice Horridge at Lewes Assizes on December 12. The prisoner and the deceased woman had been fellow-servants at a house near Horsham. There had been a quarrel because the sister had refused to get breakfast ready for the prisoner. He had cut her throat, and had divided her spinal cord, the two injuries resulting from separate wounds.

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The defence was that of insanity. Dr. F. R. P. Taylor, medical superintendent of Hellingly Mental Hospital, stated that he considered the prisoner to be a high-grade mental defective; he had an inferiority complex; and he had "definite symptoms of delusion and persecution." The witness considered that the prisoner probably knew that he was doing wrong legally, but had thought he was doing right morally. In answer to the judge, the witness said that he thought the prisoner knew that he was taking the woman's life. The report does not state whether the evidence of the prison medical officer was given. The jury found the prisoner guilty, and he was sentenced to death.

Rex *v.* Fred Fielding.

This case was tried at Manchester Assizes, on November 5, before Mr. Justice Finlay. The prisoner was charged with the murder of a young woman named Eleanor Pilkington. They had been "walking out" for three years. There was a quarrel between them. Shortly after this the accused went to an ironmonger's shop, and said to another customer, "I am drunk. I have got a murder to do, and have come to buy a knife." On the following night he broke the window of the girl's bedroom. Her father came down, and the accused then said, "If I do not see Eleanor, you will be without a daughter in about a week." Soon after this the accused cut the girl's throat, while they were walking together. He than gave himself up to the police. The defence took the line that the crime should be reduced to manslaughter, on account of the accused's condition as to drink. He was found "guilty," and was sentenced to death. The case came before the Court of Criminal Appeal on December 19. The Lord Chief Justice, in dismissing the appeal, stated that there was evidence that the man had something to drink before committing the act; but it was no excuse for crime that a man was under the influence of drink; it was a different matter if the man was so completely under the influence of drink as to be incapable of forming a criminal intent.

Rex *v.* Enoch George Wilfred Dix.

This case was originally tried at Bristol Assizes, before Mr. Justice Shearman. The accused was charged with the murder of a game-keeper, it being suggested that he shot the game-keeper deliberately, in order to avoid being arrested for poaching. The defence was that the shooting occurred accidentally. The accused was found guilty of manslaughter, and was sentenced to 15 years'

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penal servitude. The accused appealed, and the case came before the Court of Criminal Appeal on December 19. A somewhat interesting point arose in the judgment. The Lord Chief Justice said that certain passages in the summing-up had seemed to imply that it was not murder unless Dix fired with intent to kill; but, of course, if the shot was fired with intent to commit any felony, that would be murder. In reply to a question, the jury said that they found Dix to have fired intentionally, but that he did not reasonably anticipate the consequences; had they been asked whether Dix had intended to inflict grievous bodily harm, they might have said "Yes," and that would have amounted to a verdict of wilful murder. The Court declined to interfere with the sentence.

Occasional Notes.

The Retirement of Sir Frederick Willis, K.B.E., C.B., from the Chairmanship of the Board of Control (England and Wales).

We were glad to hear that the opportunity had been taken at the recent Quarterly Meeting at Bristol of referring to the retirement, on March 31, of Sir Frederick Willis from the Board of Control, over which he had presided with such distinction since 1921.

The occasion was singularly appropriate, because it was at Bristol that he received his education, first at the Merchant Venturers' School, and later at the University College of that City.

The tributes paid to him by Dr. J. Greig Soutar and Lt.-Col. J. R. Lord were no mere encomium, but expressions of the sincere regret which was felt by all administratively or medically associated with mental institutions or services in this country, at the great loss they were about to sustain. Particular reference was made to the value of his services to the Association, of which he has been an Honorary Member since 1923. The meeting by a unanimous vote endorsed all that was said of him, but time was short, and only a meagre description could be given of the debt really owing to this distinguished civil servant for his services to the State and to the public.

That omission it will now be our duty briefly to amend.

Sir Frederick Willis found little difficulty in passing the competitive examination for entrance into the Civil Service in 1886 as an Examiner in the Patent Office. His education had been mainly mathematical and scientific, and in the open competition he took a first place.

In 1890 he was transferred to the Local Government Board.

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Public health, supervision of the administration of the Poor Law, housing and town-planning, local government finance and audit were its chief activities. It had little or no concern with lunacy administration.

There he gathered most valuable experience and knowledge of public affairs until the Board, with other and allied administrative departments of the State, such as the Insurance Commission, were, in 1919, merged into the Ministry of Health, of which he became Principal Assistant Secretary.

While in the Board's service his duties brought him into contact with a great variety of difficult problems affecting the public welfare which could not fail to broaden his social outlook and deepen his insight into human nature, thus facilitating his practical dealings with the affairs of his fellow men in every walk of life. As will be seen later, it was a unique experience, and peculiarly fitted him for his new post at the Ministry, and his subsequent career fully justified the wisdom of his appointment, which was not only a compliment, but a reward he had fully merited.

Though our chief interest in Sir Frederick Willis lies in the work he did after he joined the Ministry of Health, where mental hygiene and the lunacy administration and services came within his purview, we may be permitted to mention in more detail those prior activities to which we have just referred.

Soon after joining the Local Government Board he became private secretary to Mr. T. W. Russell, then its Parliamentary Secretary. He did a great deal of work in connection with the Select Committee on Professional Money Lending, over which Mr. Russell presided.

Following this he acted as secretary to several Departmental Committees, and in 1898 became the Secretary of the Royal Commission on the Disposal of Sewage and Trade Wastes. He afterwards became one of its members. The scientific investigations and research carried out by this Commission were of the greatest importance, and even now many of its reports are regarded as the last word on their various subjects.

In 1908 he did the public good service by his thorough and painstaking inquiry into the affairs of a Board of Guardians, which resulted in the clearing up of a bad patch in Poor Law Administration. His reading of the Law and call to the Bar at the Middle Temple in 1900 amply fitted him for this particularly difficult piece of work.

From 1910 he was Assistant Secretary to the Local Government Board, and for an eventful seven years or so supervised the Department of Public Health, which period saw the emergence of national

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measures for the prophylaxis and treatment of tuberculosis and venereal diseases.

Following upon this, in the Department of Public Works, local authority finance and local authority legislation engaged his attention, and for some years he was responsible for the Board's reports to Parliament on local Acts.

His promotion in 1919 to be Principal Assistant Secretary of the newly created Ministry of Health we have already mentioned.

In 1921 he was appointed Chairman of the Board of Control, which on May 17, 1920, had become closely linked administratively with the Ministry of Health. No better selection could have been made for about this time lunacy administration, both local and central, was being assailed on every side, and his long administrative experience and unrivalled knowledge of local government were a valuable asset.

As was remarked by Colonel Lord at the Bristol meeting, "Sir Frederick Willis proved to be the right man, in the right place, at the right moment." Not only was there a recurrence of that suspicion and abuse of the mental institutions and services which originated in the '50's of last century, but the public mental hospitals during and after the War had been working under difficulties consequent upon depletion and dilution of staff and overcrowding, and the Board's work was being re-organized in consequence of the transfer of most of the powers and duties of the Home Secretary relating to lunacy and mental deficiency to the Minister of Health. All these problems demanded his immediate attention.

In regard to the first of these Sir Frederick spared no pains in probing deeply into any case in which there was *primâ facie* evidence for inquiry, but he soon realized that in the great majority of cases the charges had little to support them or were entirely baseless.

Of perhaps greater moment were the difficulties under which the public mental hospitals were being administered, owing to the depleted state of the national and local finances. Development had ceased and the progress of psychiatry was hampered thereby, though post-war idealism and enthusiasm were great. Under the circumstances it was a happy thought which led him to organize a national conference of representatives of visiting committees and medical superintendents to discuss frankly the difficult problems that had arisen. It was with no idea of either justifying or animadverting on the past that the conference was called, but solely for envisaging the future.

The conference met for its first session on January 19, 1922, and

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Sir Frederick faced a unique gathering at Spring Gardens, Westminster. There was a tense expectancy when Sir Alfred Mond, as Minister of Health, rose to open the conference. Everybody had some iron in the fire. Some were out to spend, some to save, some to mend the "lunatic," some to end him. Pathologists wanted laboratories, clinicians clamoured for early admission of cases and the provision of "acute" hospitals. Others wanted nurses' homes and a revision of pay and conditions of service of the nursing staff. All were united in condemning certain restrictive provisions in the English Lunacy Acts. Whatever view might be taken of the Minister's sympathetic and invigorating address, it was clear that he had confidence in both central and local lunacy authorities, and was hopeful, even optimistic in regard to the treatment of the mentally afflicted. In all this we have no doubt he was influenced by the reflection that Sir Frederick Willis was at the head of the Board and likely to remain so for some time.

The Conference, which was continued on the following day, led to the setting up of various departmental committees to consider and report on special aspects of the work in which improvements were deemed to be necessary. The finding of these committees have already borne fruit, largely due to the care exercised by Sir Frederick in selecting their personnel.

At the conference a resolution was unanimously passed calling upon the Government to modernize lunacy administration by facilitating the early treatment of mental disorders, and a Bill, which would have in a large measure removed the existing anomalies in the English Lunacy Acts, was subsequently presented to Parliament. Had this Bill become law it would have been the coping stone to the fine work Sir Frederick Willis had done for lunacy in this country. Nevertheless he will be remembered as one who guided with consummate ability the policy of his Board, and paved the way for fundamental reforms which, when they come to pass, will call to mind his fruitful occupancy of the chair.

It cannot but be a source of regret to him that under the age-limit he has had to retire before effect could be given to many of those ambitions for the welfare of the mentally afflicted he has striven so unfalteringly for during the whole period of his Chairmanship. Though the Report of the Royal Commission of Lunacy and Mental Disorder raised hopes of immediate legislation, there are as yet no signs that the Government will take action in this direction. Sir Frederick may, however, find consolation in the reflection that not only has he assisted towards the presentation of a case so strong that such action cannot for long be delayed, but he has also been the chief participator in formulating

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the directions which the much-to-be-desired reform and modernizing of the lunacy law should take.

Before concluding this very inadequate summary of his work on the Board of Control mention must be made of the progress under the Mental Deficiency Act of 1913—a great measure of social reform. During the war and for some years afterwards very little could be done towards bringing the provisions of this Act into full play, but with the advent of Sir Frederick progress was made, chiefly due to his tactful stimulation of the local authorities in regard to their duties and responsibilities under the Act. The Act has now been largely put into operation throughout the country.

It may be asked: What has been the secret of his success both before and after joining the Board of Control? Undoubtedly his ability to make friends and allies and to inspire them with the spirit of optimism and co-operation. This, backed by a ready wit, sincerity and unfailing good temper, has enabled him to solve many difficult problems, and to meet successfully the exigencies of trying and even dangerous situations.

As regards his work on the Board, probably to a greater extent than any before him he has succeeded in getting into close touch with the local authorities and medical superintendents of the mental institutions. Three times has he summoned in conference the local lunacy administrations.

No one hesitated to approach him with difficulties or troubles, and no one went away without sympathy and help.

Sir Frederick's coöperation with the Royal Medico-Psychological Association has been of great benefit to both the Board and the Association. The capacity he had for clear thought and ready recognition of essentials made his presence at committee meetings welcome and of great advantage.

It is not often that local authorities take the trouble to record by resolution their regret on the retirement of one of the "mandarins," but several have done so in his case, while a precedent in the history of the Board of Control has been created by the whole staff making him a presentation on the eve of his retirement.

The Civil Service view that a man is beyond useful work at 65 is shown to be fiction by the appointment of Sir Frederick to the Chairmanship of the Departmental Committee on Ethylated Motor Spirit, a post involving work that would tax many a younger man.

During the war Sir Frederick rendered valuable service to Belgian refugees for which he was awarded the Commandership of the Order of Leopold.

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He was created C.B. in 1914, and a K.B.E. in 1920.

He may rest assurred that he has the whole-hearted respect of the Association and also that of the mental hospital services, and the sincerest good wishes of all for his future.

The Cinematograph in Medical Education.

At a Conference of the National Board of Review, New York, on January 26, 1928, Dr. J. F. Montague gave an address on "The Possibilities of Medical Movies."

Referring to future developments in the use of the cinematograph in medical education, he speaks with appreciation of the endeavours of the National Board of Review to introduce into all educational fields the motion picture film.

Isolated and fragmentary films on matters of medical interest have been made from time to time in the past. He believes the film to be a potential form of literature. In time, like paper literature, it will acquire form and style. Monograph films will undoubtedly lead the way. Next, will be coördinated series of cinema lectures; and finally complete motion-picture courses on various special phases of medical science.

Thus the text-books of our next medical generation will be printed on celluloid instead of paper!

In this way the detailed dissection in anatomy can be demonstrated, experiments in physiology shown and the appearance of diseased conditions exhibited. Every detail of medical treatment and surgical technique may be made clearly visible in a degree not hitherto obtainable. These films will afford the advantages of presentation of clear data permanently and instantly available and capable of countless repetitions. Moreover, films are capable of additions, editing and re-arrangement from time to time to conform with medical progress.

Such films will in no way supplant printed literature, but will facilitate its being understood. They will furnish a method of reducing the time required for medical studies.

In public health, the film carries with it great possibilities as a medium through which instruction could be effectively distributed.

Of more interest to the medical profession are the possible uses of the motion picture as aids to diagnosis. Films of diseased conditions afford an opportunity for prolonged examination without undue strain or fatigue on the part of the patient. They constitute a series of records for comparison as to the effects of treatment or as to the progress of the disease. This will be especially valuable in conditions of the intestines and other organs.

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Extensive vivisection will no longer be necessary. Hitherto each medical student has experimented upon numerous laboratory animals, in order to learn by direct observation the truth of certain physiological facts. In the hands, however, of a skilled technician the experiment can be wholly effective, and by its being recorded upon the film it is made available many times in many places.

Dr. Montague's optimism would be more justified if there were any immediate possibility of the reduction in cost of cinematography for medical education and clinical recording. Its value in research has already been demonstrated in this country, especially in cytology. As an aid to the clinical study of mental disorders and in neurological practice it will undoubtedly be invaluable, but first of all films made of a non-inflamable material must be obtainable at a reasonable price in order to dispense with the inconveniences of elaborate precautions against the eventuality of fire and which at present stand in the way of cinematography being developed in these directions.

The importance and urgency of this subject to medical science and hence to the public welfare are not recognized or there would be prizes offered and research scholarships established, which might soon result in the removal of the obstacle to progress in this matter.

J. R. LORD.

The Royal Edinburgh Hospital for Mental and Nervous Diseases.

IT has been decided that Edinburgh's well-known mental hospital, a Royal and Chartered Asylum dating from 1813, is now to be known as the "Royal Edinburgh Hospital for Mental and Nervous Diseases."

Prof. G. M. Robertson is to be congratulated on this decision, which is a symbol of his untiring efforts to break the bonds which have for long fettered psychiatry to mental institutions to the neglect of early and borderline cases. By establishing an out-patient clinic and nursing homes in connection with this hospital, the treatment of mental disorders in Edinburgh is now on the same level as other branches of medicine, and can be practised with almost the same freedom from restrictions and with little or no stigma attached to the patients. As an encouragement to patients submitting to early treatment the latter consideration is of the greatest importance.

Edinburgh is rightly proud of its Royal Hospital at Morningside. For long a teaching centre of world-wide fame, the progressive spirit and enlightenment of its Physician-Superintendent and Managers have enhanced its reputation as a treatment centre—

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no longer confining its activities within its walls, but coöperating with the general practitioner in the treatment of nervous and mental cases in their earliest stages.

The designation "Hospital for Mental and Nervous Diseases" has been adopted by many other hospitals for a good number of years, but in no instance with such sound justification.

In these columns we have twice before drawn attention to the good that may come from this departure—in 1921 and again in 1926—and we are glad to record such a notable agreement with our views.

Part II.—Reviews.

Thirteenth Annual Report of the General Board of Control for Scotland, 1926. London: H.M. Stationery Office. Price 2*s.* net.

On January 1, 1927, there were 18,580 insane persons in Scotland, including the inmates of Training Schools for Imbecile Children (not certified under the Mental Deficiency Act) and of the Criminal Lunatic Department of Perth Prison. Of these, 2,972 were private patients, 15,540 rate-aided and 68 were maintained by the State. There was an increase of 43 over the previous year.

Admissions to establishments.—Excluding transfers, 3,035 certified patients were admitted—a decrease of 41. Of these, 440 were private, 2,595 were rate-aided, and of these 2,304 were admitted for the first time.

Voluntary admissions.—These are not registered, but a record of them is kept by the Board. At the beginning of 1926 they numbered 628, and 721 were resident on January 1, 1927.

Discharges.—185 private patients and 969 rate-aided patients were discharged recovered, and 133 private and 258 rate-aided patients were removed unrecovered.

Deaths.—The death-rate for private and rate-aided patients per cent. of the average number resident for 1926 was 8·3. 222 private and 1,164 rate-aided patients died.

Removal on probation.—During 1926, 98 patients were removed on probation. Of these, 17 recovered, 4 were discharged unrecovered, 25 were returned to asylums, 2 died, and 50 are still on probation.

Attendants and servants.—Of the 1,329 who left or died during the year, 1,034 resigned voluntarily, 64 left on account of ill-health, 17 died, 67 left without notice, 41 were dismissed for incompetence or unsuitability, 35 were not re-engaged, and 71 were dismissed for misconduct.

Escapes.—The escapes numbered 123; 24 were not returned, and of these 1 was removed from the register as recovered, 15 as relieved, 7 not improved, and 1 died.

Accidents.—There were 129 accidents reported, of which 13 ended fatally—4 of them being due to suicide. Of those due to the latter

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cause, 1 occurred from hanging, 1 by cut throat and 2 by taking poison. Of the remaining 9 deaths, 1 was due to choking over food, 1 to being run over by a train while on parole, 2 from fractured skulls from falls after fits, 1 to burns from a nightdress catching fire, 1 to septicæmia following a burn, 1 from injuries due to a precipitation from a window, 1 from asphyxia from turning over on to her face during a fit, and 1 from complications following a fractured leg. There were 9 accidents due to attempted suicide, 52 fractures or dislocations and 27 injuries to the head. There were 4 staff accidents reported, as also an assault on an attendant by a patient.

Patients in private dwellings.—There were 80 private and 1,638 rate-aided patients in private dwellings on January 1, 1927. Of the rate-aided, 9 were certified recovered, 13 were removed relieved by their friends, 69 transferred to asylums, and 56 died. In the mining districts some of the parishes increased the aliment of the Board's patients by, in some cases, two shillings a week during the coal crisis.

Cost of maintenance.—The weekly cost of rate-aided patients in asylums, licensed wards of poor-houses and private dwellings averaged 19*s.* 11*d.*, 16*s.* 8*d.*, and 12*s.* 1*d.* respectively.

Certified mental defectives.—There were 2,764 mental defectives in institutions for juveniles and in private dwellings on January 1, 1927; of these, 107 were private and 2,657 rate-aided.

Admissions.—During the year 1926 the admissions numbered 245 (43 less than last year), and of these, 17 were private and 228 rate-aided patients.

Discharges.—These numbered 107 (39 less than last year). Many of the patients were allowed home on holiday during the summer; 9 were allowed home on licence (probation) by the Board and of these 4 were discharged.

Escapes.—There were 17 escapes, and of these 16 were returned.

Cost of maintenance.—A total sum of £121,058 was expended; of this sum £4,042 was recovered from private sources, and £58,508 was distributed from Treasury funds under the 1913 Act. The net expenditure by local authorities was £58,508.

General observations.—Owing to the term "idiot" being retained in the Lunacy Acts as well as in the Mental Deficiency Act many obviously mentally defective persons still pass into asylums, and will do so until legislation restricts the admission of this class to mental defective institutions. Thirteen years' working of the Mental Deficiency Act confirms the view of the Board that mental defectives must be treated in a different manner from the insane proper, and the Board deprecate the transference of mental defectives to asylums when suffering from temporary attacks of mental disorder, but acknowledge that this, until the scheme of treatment of the mentally defective of all ages has become completely evolved, is in some cases unavoidable.

Owing to the prevalence of encephalitis lethargica a relatively large number of patients under 16 years of age have developed mental symptoms and have been certified, but the Board are

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reluctant to advise certification in these cases. By arrangement with the Board of Health a large number of such cases of all ages have been accommodated in Stobhill General Hospital, Glasgow. After the age of adolescence the colony system for supervision of all defectives is advocated.

With regard to lunacy, there is an increasing tendency to reduce certification to a minimum, and to give all cases the advantages of admission to observation wards or to asylums as voluntary patients. Several of the Royal asylums have established nursing homes for private patients, and one proposes to set up a dispensary and clinic for the early treatment of mental disorder.

A contributing factor in the decreased number of those "boarded out" in private dwellings has been due in the urban areas to the cost of living, and in the rural areas to the higher standard of living produced by the rise in value of agricultural produce and increased wages diminishing the desire of many guardians to add to their household income by accommodating patients. The Board regard these conditions as being a result of the war and temporary in nature. Similar circumstances have occurred in France.

English Theologians: The Lady Julian—A Psychological Study. By R. H. Thouless, M.A., Ph.D. London: S.P.C.K., 1925. Crown 8vo. Pp. 122. Price 4*s.* 6*d.* net.

The Lady Julian was an anchoress living from 1413 to 1473 in a cell still to be seen abutting on the Church of St. Julian at Norwich. Within the narrow confines of this cell, with a window opening outwards, through which she could hold converse with those who sought her counsel, and another window opening into the church for the purpose of hearing mass, she had in her solitude the series of visions and locutions described in this book. Dr. Thouless gives a running commentary on them as considered from a psychological point of view. He writes with sympathy as a member of the same Church of England, and with scientific acumen as a professor of psychology.

Religion of any form he defines as the felt practical relationship with what is believed in as a superhuman being or beings. That which distinguishes the religious mystic from the ordinary religious person, is the fact that the mystic experiences certain peculiar mental conditions in which he feels that he comes into real and convincing contact with spiritual objects. These replace the ordinary religious experiences of thinking about and imagining a person by the experience of actually seeing and talking to that person. The mystics' reports are written as those of eye-witnesses, not as the fruits of meditation or reasoning. They claim to have an ineffable perception of God, an experimental knowledge of His indwelling, and a direct apprehension of Him.

The idea is prevalent that mystical revelations are either pathological or the offspring of a deranged state of mind. But Dr. Thouless's book very strongly and ably advocates the view that the

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religious experiences of mystics are mainly, if not wholly, the resultants of the working of well-established psychological laws.

In the establishment of this proposition the initial question is as to the origin of the religious sentiment. Is it based on a primary instinct, and if so, on which? There have been several different answers given to this question. Some writers have spoken of the "religious instinct," implying that the religious sentiment is based on a particular instinct specifically religious—"a deep-rooted instinct" comparable with hunger or the desire for exercise. Others have asserted that religion is based on an instinct indeed, but that it is a sex-instinct. Another theory is that religion is founded on the herd-instinct, while yet another is that the first impulse in certain early religions was the effort to find "givers of life" whereby the individual's existence should be preserved, and this impulse sprang from the self-instinct. But, in truth, we find rather that a complex growth from several instincts—self, sex, and herd—is involved.

So the religious sentiment arises from primitive instincts evolved for biological ends.

Two fundamental principles of psychology modify this mechanism. The first is "suppression"—the witting refusal to translate into action the impulses to courses of conduct forbidden by the claims of society, etc. The second, which always closely follows, is "repression"—the unwitting relegation into the subconscious of those animal and infantile elements in our psyche which are incompatible with the demands of civilization. The sole means of neutralizing the evil consequent on these repressions—the liability to mental disorder—lies in the sublimation of the instinct-impulses. The energy of the repressed desires can be utilized by the mind for other purposes. The enthusiasm for religion, exactly as in the case of art and various other cultures, is evolved by the utilization of the energy of these instinctive desires.

The effort for sublimation to a religious content springs from the innate and universal sense of a wrongness about us as we stand. Criticism of this wrongness takes the individual consciously beyond it, and in touch with something higher. This sense is forced upon everyone at some time or other of life by reason of failure, disappointment, the vanishing of riches, fame, love, youth, health, pleasure—*alia aliis*.

At this point arises the pertinent question—Is that "something higher" merely our own notion, or does it really exist, and whence comes the impulse for union with it? All philosophies from the earliest ages agree that this exists—either in the shape of a personal God or gods, or as an ideal tendency embedded in the eternal structure of the world. As to the union with such, there have been, and still are, endless controversies, and no coercive arguments can be adduced for the following hypothesis concerning it. But the hypothesis seems to fit all facts, and to be in accordance with logic. Psychologists will readily recognize this as possible.

The subconscious self is nowadays a well-accredited psychological

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entity, and the hypothesis postulates that whatever the "something higher" may be, the connection with it which is felt in the religious experience is the subconscious continuation of the conscious life. It is one of the peculiarities of invasions from the subconscious regions to assume objective appearances, and to suggest to the subject an external control. The theologian's contention that the religious man is moved by an external power seems thus to be vindicated.

"God" is the natural appellation to Christians for the "something higher." God and we have business with each other, and, therefore, we cannot but expect that He will communicate with His creatures. But, as His dealings with us are universally through his invariable laws, we reasonably expect that the Divine influence will be exercised through the mechanism of Nature. And when, relative to this special point, we use the method of all true science—observation, classification, formulæ—we find that the channel of the subconscious presents itself as the passage through which the revelations of God enter the conscious. Here, as elsewhere in cases in no degree specifically religious, the invasions of ideas have usually come in sleep or at other such periods when the conscious has been wholly or partially dormant, when the unconscious is more or less uncontrolled and consequently more subject to suggestion. If the grace of God, then, miraculously operates, it most probably operates through the subliminal door.

The difference between the more common religious mental condition and the mystical is quite obvious and oftentimes immense, yet psychologically both seem to result from the same cause. Diversity in human character is caused chiefly by varying susceptibilities of emotional excitement, and the different impulses and inhibitions which they severally bring in their train. These susceptibilities are conditioned by the relative suggestibility of the subject. It is an undoubted fact that the suggestibility of the highly religious is well developed and can be increased by cultivation. The mystic carries his cultivation to the highest degree by contemplation and meditation, and, in order that for this purpose he may be entirely free from the distractions of this-world affairs, practises continual ascesis. He separates himself from his fellows, denies himself everything that ministers to desire—food and comfort—aims at directing his whole libido, *i.e.*, the energy of the mind which is differentiated into particular desires, such as hunger and love, wholly to God; and this attempt is by way of violence to all his natural affections. This tendency, however, is by no means peculiar to the religious mystic. Devotees to various pursuits show the same peculiarity. For instance, scientific research workers often exhibit a like indifference to the demands of natural affections. For by a law of mental life this violence of detachment tends to a profound impoverishment of other attachments.

The further question now claims attention, Is mysticism in any degree authoritative? Does it furnish any warrant for the supernatural which it asserts? Mystic states are absolutely authoritative over their subjects. Our rational beliefs are based on evidence

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similar in nature to that which mystics allege for theirs. Certain facts have been assured to us by our own senses, and on this ground we accept them unhesitatingly. But mystical perceptions are just as direct perceptions of facts for those who have them as any sensations accepted by us as conclusive proofs. On the other hand, we cannot admit that they are more than a presumption. At the same time their recitals of visions and locutions are uniformly consentient, providing a mass of evidence which we cannot refute, and their uniform type of experience cannot surely be altogether fallacious.

The value (and it is great) of such a book as the one under review, with whose arguments, as outlined above, we are entirely in accord, lies in the fact that if, as is the wish of the author, it induces a study of the mystics' writings instead of a superficial scanning of them from a book about them—a common and injurious present-day custom in all branches of literature—a clearer insight into the realities of religion will be gained. At all events, mysticism overthrows the claims of philosophy and metaphysics to be the sole dictators of what we must or may believe. Ratiocination by itself is an inadequate and insecure approach to the Deity. Our rational consciousness is only one type of consciousness, while parted from it by the thinnest of veils there are potential forms of consciousness of a different specific quality. Mystical states, abnormal in the sense of being outside ordinary religious experiences, may be as windows through which the mind looks out upon a larger world; they offer hypotheses which we cannot disprove. They persuade to a supernaturalism and an optimism which may be the truest solutions of the enigma of life.

EDWARD J. HOCKLY.

Inside Experience. By JOSEPH K. HART, Ph.D. London: Longmans, Green & Co., Ltd., 1927. Large crown 8vo. Pp. xxvi + 287. Price 10*s.* 6*d.* net.

This book reminds us of a symphony. In its earlier stages, such a musical composition may strike the auditor as a collection of harmonies, not unpleasant, but with no obvious connection. As the performance proceeds, a dominating *motif* appears, and renders the work intelligible. So it is with this book. The earlier chapters consist of a series of reflections, quite true, quite striking, but without patent inter-relation. Then the intention of the author comes into view, and the book appears as a consistent whole.

Every living organism has a constant series of experiences. In the case of man, these are organized and their meanings classified inside experience. Unhappily, there is a false as well as a genuine experience. Bastard experience claims the right to control, and to classify, all future experiences, and insists that such of these as cannot be brought within the old system of classification are detestable and wicked. This bastard experience is the Apollyon with whom we have to contend. Such experience is always the result of an invidious selection; it claims to represent ultimate truth, and it appertains to the dogmatic scientist quite as much

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as to the fundamentalist theologian. The process is assisted by the tendency of the ordinary man to seek short cuts; he does not want to travel by the true road, the road of further experiences.

Having described the character, and the good and evil results of habit, the author gives us an excellent chapter upon the nature of society. He traces the development of four principal theories of the origin of society, and maintains that there is some truth in each. He then deals with that ill-used word "Nature," pointing out how tyrannical a conception has been evolved therefrom, and contending that a thing may be natural without being, therefore, unchangeable. Next he takes up the problem of mind and matter. He inclines to a monistic position, holding that mind and matter are distinct, but not separable. The importance of language is carefully distinguished from the tyranny of words.

The final part of the book is occupied by applications of the author's views to various practical problems. Morality is a process of growth, and is, in the last analysis, an art. The prized stabilities of any age form no kind of metaphysical reality. The "moral" is an attitude of conduct, and not of things, nor of existences. Science is not merely knowledge, but it is knowledge so organized that the unsatisfactory in life may be reduced to a minimum. The aim of religion is to find a way of escape from immediate experiences into a world of meanings and values; so religion must grow, just as science grows. The author is Professor of the Philosophy of Education at the University of Wisconsin, and he has some scathing remarks upon our so-called educational system. As for philosophy, we all seek it, but it comes by growth, not by observation, and is not to be taken by force. The claim that all nations should be subject to a single pattern of law is faithfully dealt with.

In the present era, as in all times of rapid change, new wine is being poured into old bottles, and the bottles are bursting. The author does not indulge in facile prophecy. He is content to indicate that the task of humanity is to develop personality, whilst avoiding the dangers of the system known as individualism. Man must, if possible, be put in possession of himself, and of all his resources. This goal is as yet, far from being attained. "The pilgrim's feet walk the highways of custom and habit, but his eyes are lit with the radiance that shines over the city of intelligence."

Prof. John Dewey provides an introduction to a thoughtful and stimulating volume.

M. HAMBLIN SMITH.

Magnetism and Magic. By BARON DU POTET DE SENNEVOY. Edited and translated by A. H. E. LEE. London: George Allen & Unwin, Ltd. Crown 8vo. Pp. 154. Price 6*s.* net.

This strange book provides an interesting excursion into those days, not so very remote, when folklore and animism flourished—ideas indeed still to be met with in the parlour of the clairvoyant and the meeting houses of the Christian Scientists.

The introduction to this translation is written with evident

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sincerity, and its author traces the history of magnetism from the early alchemists through Van Helmont, Mesmer and others. He believes that animal magnetism is a thing of the spirit and must be approached only from the spiritual side, when it is capable of conferring great benefits, both spiritual and physical. A brief quotation will serve to show the nature of the introduction to this unusual work:

> "As Townshend and others had observed, if you magnetize a person he is lifted for the time into a purer sphere. The sensuous medium once put aside or dissolved, the consciousness is aware of the Divine life, in a much deeper way than is possible in the normal sense life. The mesmeric passes loosen the outermost chain which links the spirit to its corporeal dwelling-place; and at such a time the trained clairvoyant might clearly perceive the true atmosphere of the patient's spirit, the brightness or blackness which are its 'ethers.' This atmosphere is called by Easterns the 'âkashic record,' containing all the imaged ambitions, desires, passions, etc., of the patient's life. It was from the observation of this atmosphere or etheric aura that painters drew the halo or aureole round the heads of saints."

The writer says that Mesmer "had as it were half opened a forgotten door, grimy with ages of neglect, yet capable of giving access, if the true key be applied, to an inner sanctuary of infinitely greater worth."

The book then turns to an account of the Baron du Potet de Sennevoy, his life and his work. The Baron was born at the little village of La Chapelle in the Commune of Yonne on April 12th, 1796. In his early days he preferred the fields to books, and never became a shining light in the academies. In 1815 his attention was drawn to the Mesmeric School, and for five years he studied under Leleuze, Puysegur and the Abbé Faria. In 1820 he performed certain experiments on the sick in front of many incredulous doctors, an account of which he gives in his *Introduction to the Study of Animal Magnetism.*

He continued his work in spite of many rebuffs, and in 1826 he opened a school for instruction in magnetism, which many people attended, but du Potet never took any money for these demonstrations or for his later magical experiments. About 1838 du Potet came to England, and through the influence of Dr. Elliotson he was allowed to treat some patients at the North London Hospital. Owing to the opposition of the Managing Committee he was not allowed to continue, and afterwards treated patients at his own house, 20, Wigmore Street. He did not publish anything of importance concerning the medical side of his work, but the present volume prints in the appendix the experiences of one of his English patients.

An account is given of du Potet's technique, and we are told that he claimed to "take a man wide awake, full of health and strength, put a cane into his hand and say, 'In a minute you will be drunk and behave like a drunken man'; the patient then smiled incredulously, but hardly a minute passed before he staggered, his eyes grew bloodshot, etc."

We are given a translation of du Potet's account of his experiments and his comments thereon. They do not appear convincing

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to present-day readers, and bear a queer flavour of mediæval days. Indeed, the whole of this interesting book seems to have been written from the emotional rather than from the critical point of view.

D. N. HARDCASTLE.

Brains of Rats and Men: A Survey of the Origin and Biological Significance of the Cerebral Cortex. By C. JUDSON HERRICK. Chicago: University of Chicago Press. (Cambridge University Press.) Crown 8vo. Pp. xii + 382. Price 15*s.* net.

The title of this interesting book covers a great deal more than the name indicates.

The author gives a useful *résumé* of the biological development of the human brain, contrasted with that of the rat, as representative of the inferior type of educable mammal.

Accurate experiments are described in the appropriate chapters, throwing much light on the very difficult task which the author has set for himself.

Chapters are devoted to the corpus striatum, the thalamus, cerebral hemispheres, reflex and conditioned action, to the method of learning and the brain-mechanism in the rat. Especially clear is the account of the "brightness discrimination test," with illustrations by Lashley.

The theory of the localization of "learning" is frankly dealt with, the author stating that "the path of progress is strewn with derelict theories, discarded because too simple to fit more than a selected few of the known facts." The conclusion is reached, however, that "there is no evidence of extensive areas of purely associational cortex so characteristic of higher brains, nor does the rat exhibit any behaviour requiring the use of such associational mechanism." The experiment is described of the chimpanzee that, by means of a stick and repeated efforts, succeeded in obtaining a banana which was out of his arms' reach. This action, called by Lloyd Morgan "intelligence as distinguished from reasoning," by Hobhouse termed "practical judgment," by Carr "perceptual motor learning," and by Hunter "sensory thought," is a type of behaviour probably making up a large part of the conduct of many men. It appears to the onlooker as a judgment effected by trial and error.

The tracing of mechanism in these lower brains is not an easy matter, owing to the extreme smallness of the associational and projection areas, and as conduct is here less complex, so we find "reactivated cortical patterns (memories) also on a smaller scale, but knit in with the lower sensori-motor system and at the moment of action serving as deciders of conduct." This seems to explain why the primitive reactions to external stimulation are mass reflexes, as seen in the act of swimming. The simplest vertebrates can perform but few adjustments to changing environment. The young larva of the salamander or the tadpole, each well equipped with sense-organs, considering all his advantages, does very little.

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The evolution of the cerebral cortex is traced through the fishes and amphibians (ichthyopoid type) and the reptiles and birds (sauropsoid type) to the mammalia, where " it is expanded in amount and elaborated in texture."

Each of these types is illustrated briefly by reproductions of the neuron taken from the archipallial and neopallial cortex in chameleon, rabbit, cat and man.

The author agrees with Shaw Bolton that the supragranular layers of both Cajal and Brodman from the post-central gyrus (somesthetic field) contain the nervous mechanism chiefly concerned with the higher individually learned cortical function, and compares it with the parietal area in the opossum.

The fourth group in this chapter sums up what has gone before. " Man is a mammal, and his brain in all respects but one is essentially similar to that of the ape." But his cortical association centres are magnified and complicated in internal texture in a measure commensurate with his enlarged and glorified mental powers.

The author negatives the old teaching that there is no direct anatomical connection between the human corpus striatum and the cortex. He gives Grunstein's experiment on the dog, and Kinnier Wilson's results with electrical stimulation.

The important matter of the opening-up of new associational pathways is made clear, and Sherrington's theory, called " drainage " or " induction," quoted. The example given is that of an animal that has, through the acquisition of the auditory-salivary-conditioned reflex, developed a path through the correlation centre, which it eventually uses exclusively, and salivates when the bell rings.*

Under ten headings we find the subject of how rats learn ; and the final one endorses the views of Bianchi, 1922, Frans and Lashley, 1907–1917, that " the frontal lobes in the higher mammal have unique significance in the learning process."

The latter part of this book deals with psychological, social and philosophical view-points, and the behaviour of man is contrasted with that of the lower animal.

Here, the author has opinions of his own, and disagrees with McDougall in the statement that " our thinking or consciousness is the epiphenomenon of the mechanical processes of the brain."

Dealing with the subconscious, Prof. Herrick describes spontaneity as a faculty of the human mind, thus using this time-honoured word in a different sense to the older psychologists. This spontaneity is referred to as " the lineal descendant of that capacity for storing reserves of latent vital energies, which is expressed as low down even as the Protozoa, in overproduced movement, vital reserves, etc., and in the cerebral cortex this same capacity to evoke reserves of energy laid by during past experience comes to superlative expression." This view rather clashes with the Freudian

* G. S. Sherrington, 1906, *The Integrative Action of the Nervous System*, New York.

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thesis, with which the author is evidently not in entire agreement, and this is borne out from the following: "These reserves of vital energy are not the mythological gnomes of the Freudian system, complexes, censors, or other fabulous monsters, without legitimate parentage or scientifically demonstrable nature."

Haeckel's materialistic views of mind are condemned, and his "vicious influence" has been the cause of the public misunderstanding about monism.

Rivers's well-known illustration of "traffic control in large cities" is used to exemplify the working of the unconscious, which is described as static, and like everything else alive, it may even be creative.

Among these pleasant discursions are the names of the great writers, Scott, Burns, Maeterlinck, Stevenson and Barrie, to whose creative genius the "brownies of the brain, those willing sprites, that work without coercion and without reward, have, through subconscious association, contributed the necessary material."

The last chapter, which is a symposium on "Rats and Men," commences with the lines from Julius Cæsar:

> "Men at some time are masters of their fate,
> The fault, dear Brutus, is not in our stars
> But in ourselves, that we are underlings,"

He ends with the words—

"The cultivation of these finer humanities, appreciations and aspirations is what makes life worth living at the existing stage of human culture."

The book is well printed, very readable, and contains excellent illustrations, both original and after Ramon y Cajal, Lashley and Obenchain.

J. Lougheed Baskin.

An Experimental Study of the Mental Processes involved in Judgment. By B. P. Stevanović, Ph.D. *British Journal of Psychology Monograph Supplements XII.* Cambridge University Press, 1927. Pp. 138. Price 10*s.* net.

This research was carried out in the Psychological Department of King's College, University of London, under the able direction of Dr. F. Aveling, whose excellent work in these fields of investigation is well known. The work, as might be expected under these circumstances, is exceedingly well planned. It consists of two parts. In the first part the material, which serves in the making of judgments, was learned under properly controlled conditions, and attention was paid incidentally to any point which m ght arise with regard to the problem of the "Development of Meaning." During the second part judgments were made, but besides the cognitional aspect of the work the conational was also constantly kept in mind.

The material to be learnt consisted of seven series of five nonsense figures each. The figures of each series had some similarity. A two-syllable nonsense name was given to each series and the members of each series were distinguished by the numbers 1 to 5.

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A slight criticism might, perhaps, be offered here, namely, it would have been better if any similarity between the nonsense names had been rigorously avoided. For instance, "Pimef," "Petul," "Bogil" gave rise to some confusion in the learning on account of the alliteration of the first or second and the terminal *l* in the second and third. In the testing the name was shown to the observer, who had to try and reproduce the figure. A note of the introspection was immediately written down.

The second part of the experiment, and the actual research, consisted in the completion of sentences—that is, in the formation of judgment about the material learnt: for instance, "the blue Bogil is ——" etc. The reaction time was measured by Hipp's chromoscope and the "pseudo-galvanic reflex" brought into service. This was done because the author holds, evidently with Dr. Aveling, that the psycho-galvanic reflex indicates conation. This, however, is a much-disputed point, and before the question is settled it would seem advisable not to complicate matters in such a research as this. Further, if it be granted for argument's sake that the psycho-galvanic reflex does indicate conative processes, the arrangement would be useless, for the setting of the attention on the warning being given is a conative process and the initial reflex would obscure any subsequent one. If, however, the reflex was not present in each single experiment, this fact would tend to prove that the psycho-galvanic reflex did *not* indicate a conative process, for the observer sets his attention at the beginning of each individual experiment. "Phenomenal aspect of the meaning of subject in judgments made," "Presence of the general meaning of the subject in judgments" are some of the matters discussed. A great number of tables and curves are given, but the text does not always contain sufficient data to verify these. The notes are most interesting reading. It is interesting to note the emphasis laid by the author upon the difference between volition and conation. The reviewer has always held that the psychic processes of a volitional act may be entirely cognitive, without any trace of conational activity. A. WOHLGEMUTH.

The Phenomenology of Acts of Choice: An Analysis of Volitional Consciousness. By HONORIA M. WELLS. *British Journal of Psychology Monograph Supplements XI.* Cambridge University Press, 1927. Pp. 157.

This is the record of a fine piece of research carried out under Dr. F. Aveling in the Psychological Laboratory, King's College, University of London. The object of the research is to investigate the phenomenology of the process of choosing by the introspective method, to determine the part played by affective states in an act of volition, to examine the nature of awareness of self-activity, and to accompany the introspective analysis by certain objective controls, *e.g.*, reaction times, changes in electrical resistance, respiration, and pulse. Eight liquids, some pleasant, some unpleasant to the taste, were given "nonsense" names and had to be learnt

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by the observers. When this task was completed the experiments proper were begun. Two small glasses with different liquids were placed before the observer, their names displayed in a tachistoscope, and the observer had then to make his choice and drink the liquid chosen. The protocol of the introspection was dictated immediately. Incidentally we are given here a very interesting discussion on the much-disputed problem of the psycho-galvanic reflex. The author, following Dr. Aveling, holds that the drop in the resistance is indicative of a purely conative process, and not, as has more generally been held, of an emotion. Although in text-books the emotions are generally treated in conjunction with the feeling elements—pleasure, unpleasure—it must not be forgotten that by far the greatest part consists of cognitive, and especially conative elements. The evidence adduced here is, however, by no means conclusive. When the warning signal was given there was generally a marked fall in the resistance (if the specimens of tracing reproduced are typical), a smaller second fall when the Hipp chronoscope was started, and the largest fall when making the choice. Now this, to the reviewer's mind, tends to favour the emotion theory rather than the conation theory, for the attention, which is essentially a conative process, begins with the hearing of the warning signal, and continues with practically no flagging until the exposure of the names and the making of the choice. It is true that the specimen protocols given show practically no mention of emotional processes at the moments mentioned, but then we do not know what the observers would call an emotional process. Visceral sensations are experienced by many observers in similar circumstances. However, later in her work the author seems to come also to the conclusion that the importance of the psycho-galvanic reflex has been much over-rated. We may mention in passing that there is a mistake in the text to fig. 1 on p. 20. The arrow does not indicate the direction in which the photographic paper has been moving, but the direction in which the tracing is to be read. The paper has been moving in the opposite direction.

About 900 introspections by six observers were analysed as to what occurred during the time from the giving of the warning signal to the moment of completing the choice. This time was, for the purpose of the analyses, divided into five phases, namely, the fore-period, the perception of the stimulus, the development and discussion of motives, the intermediary period, and the final state or choice proper. In the text following, however, the numbering of the various paragraphs does not tally with this. With regard to the exact psychological constitution of value or worth, the author says: "Value can be found exclusively as an attribute of neither subject nor object, but rather in a functional relation between the two; all values are, therefore, descriptions of such relations, actual or possible. That is to say, value cannot be deduced from the qualities of the object, nor from a knowledge of the needs of the subject; it only appears as a content of consciousness when the two come into relation." However, many psychologists might demur to the author's assumption that a scale of the values of the

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stimuli formed during the preliminary experiments remains constant during the whole period of the research. When, discussing the tripartite division of mental processes, the author thinks that there is reason to believe that the affective states, pleasure and unpleasure, are tones or modalities of the activity, by which she probably means conation, and which we are afraid will not meet with general assent. It seems to us that too much stress is laid upon the awareness of the "self" among the processes constituting the total volitional consciousness, for consciousness of "self" is probably present in *every* psychic process of the normal adult, and is therefore generally neglected in introspection on account of its ubiquity.

These few criticisms which we have thought fit to offer do not, however, detract from the great merit of the paper, which is a real contribution towards the solution of a very difficult problem.

A. WOHLGEMUTH.

Hypnosis. By Prof. PAUL SCHILDER, M.D., Ph.D., and Dr. OTTO KAUDERS. Translated by SIMON ROTHENBERG, M.D. Nervous and Mental Disease Monograph Series No. 46. New York and Washington, 1927. Medium 8vo. Pp. 118. Price $2.50.

To many modern psychotherapists the practice of hypnosis is antiquated and of limited utility; to the psycho-analyst it has been entirely superseded. The monograph before us, however, is free from any special pleading on behalf of hypnosis or against it, but explores all aspects, bringing the practice and theory of hypnosis into line not only with psycho-analysis but with the latest work in neurology. The authors have realized that while psycho-analysis has much to say that is useful with regard to the psychological state of the hypnotized subject and his *rapport* with the experimenter, there is also a physiological side, which may throw light on the neurological state of the patient under hypnosis. The early chapters deal with hypnosis, and its effects on the somatic processes of the body through disturbances in affectivity. The relationship between sleep and hypnosis is fully discussed, but whereas the psychological state in hypnosis is clearly analysed, an attempt is made to deal with sleep as if it belonged solely to the same level. To speak of a sleep wish is to deal with one aspect only of the condition. Wish implies psychical initiative, unless all organic cravings which have an instinctive mechanism are to be regarded as wishes. This too wide use of Freudian concepts can only lead to confusion as physiological processes are involved. In the latter case psychological terms cannot be used unless we accept a pan-psychic philosophy, when all physiology would have to be restated. This the authors have no apparent intention of doing, for in a later chapter they deal with neurological mechanisms, and frankly admit the growing importance of the physiological approach.

The psycho-analytic theory of hypnosis and suggestion is described in Chapters VI and VII. In fact the psychological interpretation of hypnosis is throughout Freudian in character, yet the authors

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several times state that the experimenters' *rôle* is not always of prime importance. Chapter X discusses fully the light that the study of encephalitis lethargica throws upon the processes of catalepsy and hypnosis. These considerations are very valuable to all those who ardently wish for a scientific *rapprochement* between psychology and neurology, and it is surprising that the work of the Pavlov school is not mentioned in this connection. The spread of cortical inhibition resulting in sleep is capable of explaining hypnotic sleep also, but the mechanism of narcolepsy would have linked up these states with the remarks made about the sleep centre in the hypothalamus.

The final chapters deal with the familiar technique of hypnosis, and the various conditions in which it proves its psychotherapeutic value and others in which its use is contra-indicated.

The book as a whole is very well conceived, covers the whole ground, wastes little time over antiquated theories, and stimulates the mind on a subject fast becoming obsolete, but which, in the light of modern neurology, seems to open up interesting lines of research.

E. MILLER.

Les Maladies Neurasthéniques, Pathogénèse et Thérapeutique. Par PIERRE PRENGOWSKI, M.D., Ph.D. Paris: Libraire Felix Alcan, 1927. Crown 8vo. Pp. 100. Price 8 fr.

In this little book Dr. Prengowski has mainly devoted himself to a detailed study of that form of neurasthenia known to him as cyclothemia. The author avers that the domain of neurasthenia has been but little explored. As we do not possess detailed studies of the various forms of this disorder, its manifestations are confused with one another, even isolated symptoms being regarded in themselves as special forms of nervous illness.

Five cases are described in great detail, entirely from the physiological view-point, the psychological aspect being utterly neglected.

In the five cases selected the action of the skin appeared to be a factor alike of the digestive apparatus and of the psychic life. In each of these patients in varying degrees of intensity any sudden fall in the temperature of the body, even the sudden cooling produced by leaving a warm bed, produced alterations in the skin, the digestive organs, and above all in the psychic life. The patients were restless, uncertain in temper, depressed, unable to concentrate, showed tension or rigidity of the muscles, foul breath. After a rise of temperature, and an abundant perspiration, the whole picture changed with amazing rapidity; the patient's appearance was radically altered, the digestion became normal, he became calm, contented and able to work.

These symptoms were observed even in an infant of seven months, in which heredity was believed to play a part. This alteration of the skin, which appears as the prominent feature in all these cases, was carefully observed by the use of the dermograph. It was found that drugs which affected the blood-vessels of the skin also had an ameliorating affect upon the psychic state.

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Dr. Prengowski believes the whole state to be vagotonic in origin. The blood-vessels of the skin contract, raising pressure in the cervical vessels. The alteration in the skin diminishes elimination, thus tending to bring about a state of intoxication.

The author claims to have devised a successful method of treatment, consisting of electric pads applied with warmth to the spinal column. He quotes cases in his own private practice and also post-war cases which were greatly benefited by this form of therapy. Its great advantage is that it does not necessitate any interruption of the patient's occupation. Unfortunately the cases are not followed up, so we do not know if relapses occurred. Dr. Prengowski has written a suggestive book. There is no doubt that the *rôle* of the vegetative nervous system is but little understood. The psychological side of the treatment of nervous disorders should not be entirely neglected.

The works of Hoffmeyer, Eppinger and Hess are quoted in support of the author's contentions, and in one place (p. 61) allusion is made to "les troubles vasomoteurs du cerveau"—an entity which remains not proven. D. N. HARDCASTLE.

Un Groupe Particulier des Maladies Psychiatriques Fonctionnelles. Par PIERRE PRENGOWSKI, M.D., Ph.D. Paris: Libraire Felix Alcan, 1927. Crown 8vo. Pp. 100. Price 8 fr.

This little volume presents certain problems of psychiatrical nosology, and Dr. Prengowski illustrates his point of view with twenty detailed case-histories taken from his own experience during the past thirteen years.

He notes that although Kraepelin originally divided psychotics into two main classes—dementia præcox and manic-depressive insanity—each new work of his showed some change of view, an addition or an alteration, so that finally it seems that the author himself was not absolutely sure of the stability of his own doctrine—indeed, he was unable to verify his theory in quite a number of cases. For many cases, even after an exhaustive analysis, cannot be allocated to one or other of the groups of Kraepelin, and they seem, from the point of view of symptomatology, ætiology and even pathology, to form a group apart.

Twenty selected cases—5 men and 15 women—are carefully described. They had been differently diagnosed by various doctors; one case was first said to be hysteria, then a manic-depressive psychosis, then schizophrenia, and so on, the diagnosis being changed as the various phases manifested themselves.

There were no alterations observed in the central nervous system; for the most part the patients were well nourished, and corresponded to the "piknisch" type described by Kretschmer. In the majority of female patients their catamenia was regular.

The family history showed nervous trouble in most of the cases, and physical illness was a final factor in several.

The chief factors noted and described were: Abnormalities of

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the emotional dislpay, anger, fear, great sexual excitement, etc., depression and states of euphoria. In some of the cases these alterations could be deliberately evoked. Psycho-motor excitation was a prominent feature in several cases. Delirium and various hallucinations, sensory, visual and auditory were present in others, lucid intervals occurring without apparent cause; lasting only a few hours. Others showed delusions of grandeur and persecution, disintegration of habits and personality. Eight cases had abnormal salivation.

D. N. HARDCASTLE.

Les Tumeurs de la Moelle; Étude Clinique, diagnostique, et thérapeutique. Par J. A. CHAVASSEY. Paris: Gaston Doin et Cie, Editeurs, 1928. Demy 8vo. Pp. 78. Illustr. 12 fr.

This monograph is written by a neurologist to show how accurately the type and position of tumours of the spinal cord can be located with a view to surgical intervention. The author describes at length the various signs and symptoms and their significance, especially as regards the localization of the neoplasm. Other tests, namely, examination of cerebro-spinal fluid, subarachnoid injection of lipiodol with radioscopy, manometric tests on cerebro-spinal fluid, and subarachnoid injection of air with, if desired, radioscopy, give valuable information.

In his opening chapter he points out that the majority of medullary tumours are juxta-medullary, *i. e.*, of the pia arachnoid or nerve-roots, that they are usually easily enucleated and therefore suitable for surgical removal. It is important to remember that with medullary tumours there is a long period of physiological suspension of function before there is anatomical destruction—a fact which accounts for the surprising results obtained following the removal of neoplasm in long-standing cases of paraplegia.

He describes the symptomatology under the two stages preparaplegia and paraplegia, and follows this with a description of less usual forms. Amongst the preparaplegic symptoms he describes the usual localized radicular and diffuse spinal pains and various sensory and reflex abnormalities. It is to the symptoms of the paraplegic stage that he attaches most importance, as he considers that definite diagnosis and localization are not possible before this. He attaches considerable importance to the automatic reflexes of the medulla—the defence reflexes of Babinski—and states that their exaggeration is one of the most characteristic phenomena of this stage of medullary tumour. Various forms of objective sensory disturbances are found, but the upper limit of such can always be accurately defined. This is most important, as from it the upper limit of the tumour can be ascertained. Paraplegia in flexion is distinctly unusual, but if it appears, either primary or secondary to the usual paraplegia in extension, the author considers it necessitates immediate operation.

The changes looked for in the cerebro-spinal fluid are increase of protein without corresponding increase of cellular content, and the

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Froin syndrome, but a normal fluid does not exclude tumour. The author is very enthusiastic about the lipiodol test. A thick oil of iodine (*lipiodol radiologique*, *Lafay*) is injected into the subarachnoid space above and below the tumour, and its movements watched by means of the radioscope, followed later by the taking of plates which should show up the tumour quite clearly. These plates can be repeated for several months, as the lipiodol takes a long time to dissipate. In the manometer test advantage is taken of the fact that in the normal person straining efforts and pressure on the jugular veins cause a distinct rise in the pressure of the cerebro-spinal fluid, whereas in complete blockage of fluid due to tumour causes the usual rise, whereas compression of jugular veins causes no change. If the blockage is incomplete a rise in both cases is obtained in a slow and jerky manner. The fourth instrumental test described is the injection of air into the ventricles or subarachnoid space, but this the author considers distinctly dangerous and much inferior to the lipiodol test in the information it supplies. A chapter on differential diagnosis follows, and the author applies the results of the clinical and instrumental examinations to the diagnosis of the localization of the tumour. It is essential to determine the medullary segment involved, the corresponding vertebræ and spinous processes, and if possible whether the neoplasm is intradural or extradural, its length, and its position in the canal in relation to the spinal cord.

The last chapter deals with treatment; details of the operation are not given, but such questions as contra-indications and the best time to operate are discussed.

The author is most insistent on the absolutely definite localization of the growth prior to laminectomy. The operation is a most difficult one, with a high mortality even in the most skilled hands. He deprecates the tendency in America to perform exploratory laminectomies

Radiotherapy has been found useful in some cases to relieve pains where growths are inoperable on account of malignancy or because they are metastatic. It has also been used combined with surgical measures in certain radio-sensitive tumours.

K. McCowan.

A Study of Somatic Conditions in Manic-Depressive Psychosis. Inaugural Dissertation by Torsten Sondén. Upsala: Almquist & Wiksells Boktryckeri, 1927. Pp. 269. Many illustrations.

In his introductory chapter the author remarks that research into the somatic conditions accompanying mental diseases is not suited to "group investigations," as there is no proof that those suffering from the same mental disease are alike in their somatic conditions. He considers that this method has encouraged certain workers to report positive results and found hypotheses on flimsy grounds, and he cites some glaring examples, which could easily be supplemented. He considers that this is much less likely to occur

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where the method employed is that of "serial investigations," these being carried out on the same person over a period of time in which he exhibits different mental states.

His work has been done on 11 patients suffering from manic-depressive psychosis and has extended over 2½ years. Investigations have been largely directed to what the author calls "complete blood examinations." In some cases these have been done daily for months on end. A clinical description is given of each case, and there can be little doubt that any other psychosis has been included in the list.

No single somatic phenomenon could be demonstrated as an invariable component of any particular psychic state, which excludes such phenomena being used for prognostic or diagnostic purposes as recommended by some workers.

Entirely negative results were obtained in respect of respiratory rate as well as non-protein nitrogen and its components. In the blood-sugar investigations no tolerance tests were done, and though fasting levels tended to be high during depressed phases, no conclusive results were obtained. The vegetative nervous system was examined by means of the oculo-cardiac reflex, Loewi's reaction, and by the effect of intravenous injections of adrenalin on the blood-pressure. These tests were very unsatisfactory, especially in manic patients, but the results obtained were definitely against the French theory that this psychosis is an anaphylactic phenomenon acting on a constitutional vagotonia. He points out that recent work on the leucocytes showing great variations in the normal person due to quite physiological causes, largely discounts the work done on the leucocyte count in mental diseases, and he is not inclined to place much importance on his own findings. He found a tendency to a mild neutrophil leucocytosis both in manic and depressed phases, but especially in the former, and he fain would correlate this with the occasional rise of temperature, increased pulse-rate and heightened blood-pressure found, as pointing to a stimulation of the sympathetic.

Better results were obtained in the investigations into the number of erythrocytes. These were increased, in some cases quite definitely, both in manic and depressed phases. As the albumen content of the serum was also increased, the author considers that there is a redistribution of the body-fluids—an outflow of fluid from the capillaries into the tissues under the influence of the vegetative nervous system.

Summing up, the author considers that his findings are definitely against a toxic origin for the manic-depressive psychoses. He assumes that an hereditary disposition is the true basis of the disease, and considers that the disease is to be found in the nervous system, and probably also in the endocrines. Considering that the book is a translation it is fairly well written, and the meaning is always clear. The book is abundantly supplied with charts and tables, and details of all the methods used are given. It is well worth perusal.

P. K. McCowan.

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Die Grundlagen der Psychoanalyse [*Fundamentals of Psycho-Analysis*]. Von Dr. HEINZ HARTMANN. Leipzig: Georg Thieme, Verlag 1927. Medium 8vo. Pp. 192. Price M. 11.40.

Dr. Hartmann's volume is by one who has himself been for long engaged in psycho-pathology, and has been in a position to put the theory to the test.

The book opens with a critical examination of psycho-analysis as a science, particularly as a mental science, and finds that the method of investigation does not differ in any essentials from other scientific methods. Having overcome the difficulty inherent in unfamiliar data, the establishment of causal relationships can be made where the mind of the critic and investigator are free from preconceived notions.

The whole range of Freudian psychology comes under the author's critical eye, the concepts of the unconscious, symbolism and displacement of affect. The important ego psychology of Freud does not, however, receive the attention it deserves.

On the whole Freudian psychology comes out of the critical survey with credit, but the author admits that, like all other humanistic subjects, psycho-analysis may be deeply influenced by the personality of Freud himself.

This is of interest since all the disciples of Freud adhere closely to the views of the master, and have merely amplified these views. Those who have differed have done so in fundamentals and have seceded entirely from the movement. Freudian psychology digs so deeply into human processes and prejudices that, once affected by it, no one can be the same afterwards. Whether such a moral catharsis is good for scientific workers time alone will show.

E. MILLER.

Die Psychischen Heilmethoden [*Pyscho-Therapeutic Methods*] *für Arztliches Studium und Praxis.* Edited by K. BIRNBAUM. Contributors: K. BIRNBAUM, H. v. HATTINGBERG, G. R. HEYER, E. JOLOWICZ, A. KRONFELD, E. WEXBERG. Leipzig: Georg Thieme, Verlag 1927. Medium 8vo. Pp. xi + 462. Price M. 21.

In this volume Dr. KARL BIRNBAUM, of Berlin University, has gathered together the opinions of six prominent German psychiatrists upon the outstanding problems of psychopathology. In a long introductory section the editor considers the problems underlying all psycho-therapeutic approaches, and therefore deals fully with the psycho-physical relationships, and the way in which organic and psychical processes in health and disease mutually affect one another.

Dr. JOLOWICZ reviews the subject of suggestion from Liebault to the Coué-Baudouin school, and discusses the methods of indirect suggestion and so-called "Kuren." This naturally leads him to consider the important topic of the encroachment of suggestion into all forms of treatment.

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Dr. HEYER writes the chapter on hypnotherapy, its history, methods and variations. The chief types are discussed and their relationship to light hypnosis and trance are fully dealt with. The physiological and psychological changes are considered, but not as adequately as one would wish. Much work in the neurological field has a bearing upon hypnosis and the allied states of sleep and catalepsy. These important relationships are not sufficiently dealt with.

Dr. HAAS HATTINGBERG covers the complicated field of psychoanalysis. The subject is dealt with by starting with the Breuer-Freud concepts of psychic traumata and repressed affect, and all the familiar phases of the Freudian psychology are examined and explained. A separate section might have been devoted to Freud's conception of infantile sexuality in order to bring out the relationship between regression and symptom-formation. Unless this concept is made thoroughly clear the Freudian psychology becomes unintelligible. While dealing with the psycho-analytic explanation of types, the author says little about the Freudian explanations of manic-depressive insanity and schiophrenia.

Dr. WEXBERG considers briefly the Adlerian point of view, and its particular usefulness in understanding childhood problems and helpfulness in education.

Dr. KRONFELD has by far the largest section on the subject of psychotherapeutic education, and coins the word " Psychogojik " ! He pleads that it is the oldest form of psychotherapy. The author discusses the value of work and ethical training for children and adults. He explores the whole range of the " erotic motive " in life and conduct, and advocates psychological education.

Each section has a good bibliography, which makes the volume additionally useful. E. MILLER.

Vom Liebes und Sexualleben [Love and Sexual Life] : Erfahrungen aus der Praxis für Aertze, Juristen und Erzicher. Von Dr. MED. LUDWIG FRANK. Leipzig : Georg Thieme, Verlag 1927. 2 vols. Demy 8vo. Pp. xx + 407 and 807. Price M. 16,50.

These two large volumes, couched in the form of letters to friends, doctors and patients, contain the ripe experience of a very varied practice in the field of psycho-pathology. This method of conveying psycho-pathological information and advice has certain dangers. On the one hand, it is calculated to antagonize the uninitiated by a certain pomposity that didactic writing always possesses, and on the other, it may irritate the student of psychology by a pontifical air.

The letters are arranged in order of the age of the persons dealt with in the communication. Some deal with the difficulties of childhood, adolescence and the delinquencies which appear at those periods. Later letters concern the vicissitudes of the love life in young adults, and the remainder cover the whole field of married life, sexual disharmony, frigidity, impotence, and homosexuality.

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In each letter the psychiatrist attempts to convey to the reader, the results of a series of interviews with the patient, and the opinion formed as to the conflicts and their resolution. It is obvious that while the author has not carried out a full analysis of the cases on strictly psycho-analytical lines, he has elucidated the problem in each on the basis of Freudian psychology, which he adopts entirely, except the recent developments along the lines of ego-psychology Those who have first-hand knowledge of the Freudian method will be somewhat sceptical as to the results achieved.

Conflicts are not solved by pointing them out to the patient, but only as a result of the protracted free-associations, which bring to the surface unresolved conflicts and disturbances in the development of the instinctive processes.

But the defect need not detract from the usefulness of the two volumes, which cover a wide field of the anomalies in the psycho-sexual life. Such letters, however, can only prove useful to the general physician and psychiatrist if they are treated as hints from an experienced physician's case-book and not as general principles.

E. MILLER.

Tonic Hardening of the Colon. By T. STACEY WILSON, M.D., B.Sc.Ed., F.R.C.P.Lond. Oxford Medical Publications: Humphrey Milford, Oxford University Press. Demy 8vo. Pp. xxiii + 210. Price 8*s.* 6*d.* net.

Although the author writes on a condition that has been recognized for many years, it is to his credit that in this volume he has gathered together from his long experience, the symptomatology of tonic hardening of the colon and facts which make this hitherto little-known ailment of considerable interest and importance.

Much of the information is of value to the general practitioner, but certain sections dealing with the relationship of tonic hardening of the colon to mental disorders are of special interest to psychiatrists. The condition of chronic colon hardening consists of a prolonged over-activity of the muscular coat, described by Sherrington as postural muscular activity. The author uses the term "tonic elastic fixation" for this plastic form of static activity of the colon which renders it similar to a rubber tube.

The lesion is usually localized to the cæcum and sigmoid, but when absent from these sites must be looked for also in other parts of the colon, including the rectum. Tonic hardening, he describes as a reflex nervous phenomenon dependent not only on the amount of stimulus received from afferent impulses to the reflex centre in the segment of the cord affected, but upon the excitability of the centre itself.

Thus the symptoms arising may be expected to vary according to the state of the central nervous system at the time. This reflex pain, frequently segmental in character, can be ascertained from the patient's history or by palpation of the hardened segment. In some the type and onset of the reflex pain suggests

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colon hardening; in others the only certain evidence of this condition is the finding of abnormal hardening and tenderness. In many instances cited by the author the absence of a systematic abdominal examination meant the condition being completely overlooked.

The symptoms produced have a very wide range; the intimate reflex relationship between the stomach and the colon explains the frequent occurrence of gastric disturbance, pyloric spasm, reflex vomiting. More remote are circulatory disturbances, numbness or deadness of the fingers as seen in Raynaud's disease, disturbed cerebral circulation giving rise to post-prandial physical and mental lassitude.

With regard to the function of the colon itself no recognizable disturbance may be present; severe constipation, however, is liable to occur owing to the constriction presented and the frequent proximal dilatation. Referring to the relationship to mental disorder, the author states that his clinical experience shows conclusively that the abnormal nervous impulses which are originated from the tonically hardened colon segment may disturb the patient's sense of well-being. Such disturbances may take the form of mental depression, obsessions, phobias, which may be so severe as to carry the patient to the border-line of insanity. In other words, the reflex impulses, instead of seeking the efferent path *viâ* the sensory nerve-roots, may effect direct transmission to the higher cerebral centres. The writer finds in such cases that referred segmental pain is relatively uncommon. He cites instances where patients, by producing pain in pinching the hardened colon, broke the mental train of symptoms with immediate relief, but not, however, without the onset of segmental manifestations. A number of striking cases are given to illustrate the various points, and the treatment he prescribes has afforded speedy relief in many cases.

With regard to ætiology the writer suggests that the agent is of the nature of a microbic toxin—a view founded on the results of his treatment. He states that auto-intoxication, which is a chemical agency, is not responsible, and emphasises the point that tonic hardening is purely a nervous phenomenon, the ultimate cause of which is something which stimulates nerve-endings. Towards the end of the book the writer discusses the probability of mental disturbances being due to tonic colon hardening. He expresses two distinct points of view which, without pretending to solve the problem of insanity, are very reasonable arguments in support of the physiological and psychological mechanisms involved. A number of interesting case-histories are given. The whole subject as it affects mental disorders is worthy of further investigation. The writer's cases are recent and borderline, and prognosis is good when the condition is recognized and receives early treatment. It remains to be seen, however, if the detection of colon hardening and its relief will have such striking results in long-established mental disorders. Since receiving this book the reviewer has had the opportunity of observing tonic hardening in a number of mental hospital patients. Treatment on the lines laid down has

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been carried out. In about half the number of cases improvement has been noted in a short space of time. In all constipation was severe, and whether mentally benefited or not, the colon area relaxed with relief of the constipation.

The final pages of the book are taken up with aphorisms, which are useful for immediate reference. W. M. FORD-ROBERTSON.

The Examination of the Central Nervous System. By DONALD CORE, M.D., F.R.C.P. Edinburgh: E. & S. Livingstone, 1928. Crown 8vo. Pp. x + 249. 14 illustrations. Price 8*s.* 6*d.* net.

Neurology has a particular interest for the psychiatrist, and in the general examination of the mental patient the nervous system claims precedence, as the proper functioning of the mind is dependent on its integrity. As McDougall expresses it, "Our cognitive processes are largely determined by physical impressions made on our sense-organs and transmitted from them along the nerves to the brain, and our conative processes guide and control bodily activities through the medium of the brain and nerves." Mental disorders and disease of the nervous system are often associated. The psychiatrist should therefore endeavour to make himself proficient in detecting nervous diseases.

Neurology has made rapid advances in recent years, and authors of text-books have experienced difficulty in finding room for the new facts that have come to light. The chapter on the examination of the patient has usually been selected for curtailment. Hence the necessity for hand-books dealing purely with the clinical aspect of neurology, such as the one under review.

The first 165 pages of the book are devoted to the objective manifestations of pathological processes affecting the motor system, the reflexes, the sensory system, the cranial nerves, speech, and the mental state. The importance of first obtaining a detailed history is particularly emphasized. In the course of the routine examination which follows it is recommended that the various systems be investigated concurrently. Dr. Core observes that the patient may be put to considerable inconvenience if the examination be too prolonged. He has, accordingly, mapped out a special scheme of examination by which this danger may be avoided. He maintains that, for practical purposes, regional examination is essential.

When a neurologist includes in his book a chapter of some 20 pages on mental states we ought not, perhaps, to be too critical as to his terminology. A psychiatrist, writing on nervous diseases, would be just as liable to errors. Nevertheless we must point out that in such expressions as "Delusions may be auditory, visual, or olfactory," and again, "auditory delusions," "visual delusions," etc., "hallucinations" are referred to and not "delusions."*

(*) This may, however, be intentional on Dr. Core's part, though he gives no reasons. Hallucination "with insight" occurs in both sane and insane people, but usually in the former. Hallucinations "without insight" are false beliefs in that the person so afflicted is certain that such are not hallucinations but reality.—[EDS.].

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The scope of Dr. Core's little work is, admittedly, purely elementary. It is easy to read, and the use of difficult terminology has been reduced to a minimum. Though intended for the use of medical students, it will be found useful for all who need a practical guide to the examination of the central nervous system.

NORMAN R. PHILLIPS.

Report of the Commissioners of Prisons for 1926. London: H.M. Stationery Office, 1927 (Cmd. 300 3). Price 9*d.* net.

The Report of the Commissioners of Prisons and Directors of Convict Prisons for the year 1926 marks a change from previous reports in that it covers the statistics for the calendar year, instead of the financial year which ends with the month of March. There is, however, another change which is greatly to be regretted, *i.e.*, the omission of extracts from the reports of individual medical officers and chaplains, which have always added so much to the general interest of the annual reports.

The total number of receptions of prisoners under sentence was slightly greater than that of the previous year, *viz.*, 56,211. Of the prisoners received on conviction, 64% of the men and 87% of the women were recidivists. Of these no less than 2,945 men and 2,978 women had been previously convicted more than twenty times. Great as these figures are, they show a considerable reduction from the figures for 1913–14.

The number of prisoners certified as insane or as mentally deficient may be tabulated as follows:

	Men.	Women.	Total.
Insane in local prisons	90	18	108
,, on remand	156	34	190
,, on arraignment	21	4	25
"Guilty but insane"	19	11	30
Insane in convict prisons	8	..	8
Total	294	67	361

Dealt with under the Mental Deficiency Act, §8:

	Men.	Women.	Total.
Reported to courts	189	32	221
In local prisons	51	8	59
In Borstal institutions	1	..	1
In convict prisons	1	..	1
Total	242	40	282

There were, in addition, 77 persons who, though mentally defective, were not certifiable as insane or under the Mental Deficiency Act.

The Medical Commissioner deals at some length with the important question of encephalitis in relation to criminal actions. As the result of a special inquiry, 72 cases of encephalitis were noted in the various prisons over a period of two years. In 53 of these the

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attack occurred before the age of eighteen years, and they would therefore come within the provisions of the Mental Deficiency Act, 1927. He concludes from the histories of the cases that each must be treated on its merits, and that it could not "be logically contended that a person who has had encephalitis is thereafter necessarily immune from the consequences of his criminal acts."

G. A. AUDEN.

Part III.—Epitome of Current Literature.

1. Neurology.

Kompensation und Aushilfe in den Leitungsbahnen des Gehirns [*Compensation and Vicarious Function in the Cerebral Tracts.*] (*Psych.-Neurol. Wochens., January 7*, 1928, *No.* 1.) *Anton, G.*

Short descriptions of three cases with total or partial absence or atrophy of the cerebellum, of one case of bilateral cerebral tumours, and of a case described already by Monakow with compensation by vicarious functioning or hypertrophy of the motor or sensory tracts.

A. WOHLGEMUTH.

Economos Hirnrindenforschung [*Economo's Investigations on the Cerebral Cortex*]. (*Psych.-Neurol. Wochens., January* 21, 1928, *No.* 3.) *Steyerthal, A.*

A short review of a work by Constantin v. Economo and Georg N. Koskinas, of Vienna, entitled, "Die Zytoarchitektonik der Hirnrinde des erwachsenen Menschen" (The Cellular Architecture of the Adult Human Cortex), and of ten lectures of v. Economo on "Zellenaufbau der Grosshirnrinde" (Cellular Structure of the Cerebral Cortex).

A. WOHLGEMUTH.

The Tics and Allied Conditions. (*Journ. of Neur. and Psycho-path., October*, 1927.) *Wilson, S. A. K., Guillain, G., and Cruchet, R.*

The subject of tics and their allied conditions is dealt with by Dr. Kinnier Wilson, Prof. G. Guillain, Paris, and Prof. Réné Cruchet, Bordeaux, being the opening papers in the Section of Neurology at the Annual Meeting of the British Medical Association, held in Edinburgh, July, 1927.

Dr. Wilson deals with the various definitions of "tic," and then proceeds to its symptomatology under three headings:

1. General characters.
2. Localization and varieties.
3. Tic-like movements following epidemic encephalitis.

With regard to ætiology and pathogenesis he observes:

(1) "Behind all tic phenomena lies a psychical predisposition."

(2) "Grafted on a constitutional basis, tic makes its appearance in some cases (possibly in the majority) as the expression or outward manifestation of an unconscious desire."

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(3) "Any purposive co-ordinated act passes by dint of repetition into a habit, an acquired automatism."

(4) "Movements of defence against a source of irritation suffice in some instances to set in motion the processes leading to tic."

(5) "Finally, I must direct attention to the possibility of a tic being engendered on the basis of pre-existing involuntary movements of another class."

In conclusion Dr. Wilson discusses the value of general hygienic measures, of sedative treatment, hypnosis and suggestion, and re-education, the last being dealt with at some length.

The remarks of Prof. Guillain and Cruchet, with a report of the discussion which followed the reading of the papers, conclude the article. WM. MCWILLIAM.

The Prognosis and the Late Results of Post-Encephalitic Respiratory Disorders. (*Journ. of Neur. and Psycho-path.*, *January*, 1928.) *Aldren Turner, W., and Critchley, M.*

The disorders of respiration associated with epidemic encephalitis are dealt with in considerable detail, and, particularly, the end-results of these disorders are traced with the object of determining a sure prognosis.

The authors review the literature and give details of 29 cases, special stress being placed on the variability of these respiratory disorders. WM. MCWILLIAM.

A Remarkable Case of Pachymeningitis Hypertrophica presenting Froin's Syndrome. (*Journ. of Neur. and Psycho-path.*, *January*, 1928.) *Wiersma, D.*

Prof. Wiersma describes his case of pachymeningitis hypertrophica fully, giving a detailed case-history which includes the findings at the autopsy. He then discusses ætiology, symptomatology, histology, cavity-formation and the syndrome of Froin. Under the section on histology a detailed description of the microscopical preparations is given, and photographic reproductions of much interest are supplied in seven instances. Twenty-five references are supplied to the text. WM. MCWILLIAM.

Epileptic Variants. (*Journ. of Neur. and Psycho-path.*, *January*, 1928.) *Kinnier Wilson, S. A.*

In this paper Dr. Kinnier Wilson discusses a number of cases which present similarities to the phenomena of epilepsy as usually understood, believing that a close study may be fruitful in dispelling the idea of epilepsy as a self-contained and sharply delineated clinical entity.

Those variants he describes as motor, sensory, psychical or visceral.

Motor variants may be of the nature of myoclonic or regional epilepsy, epilepsia partialis continua, tonic epilepsy, co-ordinated epilepsy, and inhibited or akinetic epilepsy.

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Sensory variants he describes as reflex epilepsy, sensory epilepsy and affective epilepsy.

All these are freely elaborated and numerous cases are cited to illustrate the points raised. WM. MCWILLIAM.

Observations and Results of Intra-cranial Section of the Glosso-pharyngeus and Vagus Nerves in Man. (*Journ. of Neur. and Psycho-path., October*, 1927.) *Fay, T.*

Dr. Fay describes two cases which arose in his neuro-surgical practice:

(1) Intra-cranial section of the glossopharyngeus.
(2) Intra-cranial section of the vagus nerve.

He describes the anatomy of the parts involved and discusses the two lesions at length.

He concludes that the glossopharyngeus is probably a nerve of special sense, devoted to gustatory and secretory function; that the vagus nerve supplies a small cutaneous area in the region of the concha of the ear, as well as common sensation to the pharynx and larynx; and that intra-cranial section of the root should determine the nuclear functions of these nerves, and further establish the exact physiology of each. WM. MCWILLIAM.

Post-Concussion Neurosis: Traumatic Encephalitis. (*Arch. of Neur. and Psychiat., August*, 1927.) *Osnato, M., and Giliberti, V.*

The authors, struck by the resemblance between post-concussion syndromes and epidemic encephalitis, investigated 100 cases of concussion with or without fracture of the skull. In concussion of the brain there is no marked neuroglia reaction, but a hæmorrhagic and thrombotic picture, usually in the periphery, the white and grey matter of the deeper parts of the brain being comparatively free from injury. The pia arachnoid suffers most. Concussion is *not* "a transient state which does not comprise any evidence of structural cerebral injury." There *is* injury in concussion, and in some cases probably secondary degenerative changes develop, giving rise to a symptomatology which resembles in many ways epidemic encephalitis. Hence the authors' preference for the term "traumatic encephalitis" in place of "post-concussion neurosis."

G. W. T. H. FLEMING.

Encephalitis Periaxialis Diffusa (*Schilder*). (*Arch. of Neur. and Psychiat.. December*, 1927.) *Schaltenbrand, G.*

Schaltenbrand describes a case of this disease in a girl of 14, in which the diagnosis was made ante-mortem on typical symptoms of apathy, optic neuritis, choked disc and signs of extensive bilateral lesions of the brain. At autopsy the brain showed widespread softening and disintegration of the white matter of both hemispheres. The process involved the corpus callosum, and extended downward as far as the midbrain and chiasma. The less extensively involved areas showed an abnormal filling of the blood-vessels and a mucoid degeneration of the oligodendroglia, identical

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with that in Penfield's acute swelling. The areas of severe degeneration showed a complete destruction of the myelin, which was phagocytosed by scavenger cells of microglial origin. The axis-cylinders were partially preserved. The oligodendroglia had entirely disappeared. The neuroglia had hypertrophied in number and size of the cells, and formed a thick, fibrous network. The perivascular spaces were enlarged, and were filled with scavenger cells and a few lymphocytes. In the areas of severest destruction there was formation of a scar of connective tissue. The author thinks this disease is probably caused by an ultra-microscopic virus.

G. W. T. H. FLEMING.

Forced Conjugate Upward Movement of the Eyes following Epidemic Encephalitis. (*Arch. of Neur. and Psychiat., January*, 1928.) *Taylor, E. W., and McDonald, C. A.*

Taylor and McDonald report 13 cases of upward movement of the eyes in post-encephalitic Parkinsonism. In 8 out of the 13 the movement was only upward, in 4 this was combined with lateral movement, in 1 case there was a slight external rotation of the right eys, and in 1 case downward alternated with upward movement. Associated movements of the head occurred in 5 cases. Usually the interval between attacks was more than twenty-four hours. The treatment, largely by scopolamine, was effective in 8 cases; in 2 it was without result. The disappearance of the spasm when the patient lay down was striking in several cases.

G. W. T. H. FLEMING.

The Evolution of an Encephalitic Dystonia into a Hypertonic Akinetic Syndrome resembling Wilson's Progressive Lenticular Degeneration. (*Journ. of Nerv. and Ment. Dis., November*, 1927.) *Brock, S., and Katz, S.*

The authors describe a case of encephalitic dystonia, with little evidence of hypertonus and insignificant striatal-bulbar symptoms, which developed into a syndrome with hypertonus, restriction or loss of movement, dysarthria and dysphagia, which resembled Wilson's disease. Apart from a slight euphoria there was no psychic disturbance. They point out that the Vogts and Jakob have called attention to partial striatal lesions progressing to a complete strio-pallidal degeneration. G. W. T. H. FLEMING.

Lesions of the Epiconus. (*Journ. of Nerv. and Ment. Dis., November*, 1927.) *Alpers, B. J.*

The epiconus region, which includes segments from the fifth lumbar to the second sacral inclusive, differs materially in an anatomical way from the conus. The symptoms are those of involvement of the sacral plexus (the nervus peroneus being most affected) absence or diminution of the knee-jerks, integrity of the sphincters, and integrity of the patellar reflexes. Alpers' own cases showed that the glutei and hamstrings were involved in all his cases, also the extensors of the toes. The extensors of the thighs and legs are

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always involved to some extent. Seletzky believes that there are two types of epiconus syndromes, one involving chiefly the gluteus maximus, with the peroneal nerve only slightly affected, the lesion being in the lower part of the epiconus. The other type shows more pronounced involvement of the peroneal nerve, and the glutei are only slightly involved, the lesion being in the upper part of the epiconus. Any disease affecting the spinal cord may of course involve the region of the epiconus.

G. W. T. H. FLEMING.

Vasomotor and Pilomotor Manifestations: Their Localizing Value in Tumours and Lesions of the Spinal Cord. (*Arch. of Neur. and Psychiat., January*, 1928.) *Fay, T.*

When the skin of the trunk is suddenly exposed to cold by uncovering it, in diffuse daylight, a band of hyperæmia appears and fades. The level of vasomotor demarcation coincides with the first signs of sensory change, which began with this line and became increasingly more definite below this level. The upper zone of hyperalgesia corresponds to the upper level of vasomotor demarcation. The pilomotor reflex is obtained by flicking the skin with a cold towel. Thomas recently suggested deep pinching of the skin and the trapezius muscle at the base of the neck. This gives a homolateral reflex, spreading down the same side. This may fail to appear below the involved segment. A point of tenderness to deep pressure was found in each case over the spinous processes at the level of the lesion. The vasomotor line of demarcation will frequently indicate the level of the lesion before the development of sensory or motor symptoms of focal value.

G. W. T. H. FLEMING.

The Corpus Striatum. (*Arch. of Neur. and Psychiat., October*, 1927.) *Morgan, L. O.*

The author reviews the present position with regard to this important region of the brain. He describes experiments on six cats by the Marchi method, and having studied secondary degenerations in human brains as well, he comes to the following conclusions:

Efferent fibre systems from the globus pallidus have been shown to terminate in (1) the mammillo-infundibular nucleus of Malone; (2) cephalic part of the substantia reticularis hypothalami of Malone (nucleus of Forel's field) of the same and opposite sides; (3) the subthalamic nucleus of Luys; (4) the subthalamus ventrocaudal to the thalamus (caudal part of the substantia reticularis hypothalami); (5) interstitial nucleus of Cajal and nucleus of Darkschewitsch; (6) oculo-motor nucleus and nucleus of Westphal-Edinger; (7) red nucleus (?); (8) motor division of the substantia nigra (intrapeduncular nucleus of Malone); (9) peripeduncular nucleus of Jaconsohn.

Through a strio-bulbar fasciculus, fibres terminate in (10) the trochlear and abducens nuclei; (11) reticular nucleus of the pons and

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medulla (not definitely proved); (12) masticator nucleus; (13) facial nucleus; (14) ambiguus nucleus; (15) hypoglossal nucleus; (16) through Meynert's commissure to the globus pallidus and region of Forel's field H2 of the opposite side.

In general, the fibres taking origin in the ventral part of the globus pallidus, especially in the medial division, terminate in nuclei in the subthalamic region and the region of the posterior commissure, and have to do with general movements of the body. Fibres arising in the dorsal part of the globus pallidus, especially in the lateral division, are distributed to motor nuclei of the pons and medulla, and are concerned with speech, mastication, deglutition and facial expression.

A lesion in the left lenticular nucleus of the cat involving the ventral part of the lateral division and injuring the medial division of the globus pallidus is followed by (1) left circus movements, accompanied by extreme hypertonicity of the muscles on the left side of the body; (2) a general hypertonic, restless condition affecting all muscles of the body; (3) constriction of the left pupil; (4) athetosis in some cases, and occasionally tremor. These symptoms all disappear within eight or ten days, except the constriction of the left pupil, and the muscles that were previously hypertonic become somewhat hypotonic.

A lesion in the dorsal part of the putamen and lateral division of the globus pallidus is followed by disturbances of the voice, and difficulties in taking, masticating and swallowing food. These symptoms are at first due apparently to spasticity of the muscles concerned in these activities. After eight or ten days, these muscles relax and lose their tonus until a partial paralysis results.

The early symptoms that follow lesions in the lenticular nucleus are considered to be caused by irritative stimulation, due partly to stimulation, by the degenerative process in the striate system of fibres, of lower motor centres in the subthalamus, midbrain, pons and medulla, and partly to irritation of the area surrounding the lesion. The later relaxation and loss of former symptoms is considered a true deficiency phenomenon. It is also believed that the motor disturbances attributed to progressive degeneration in the corpus striatum in man are due to irritative stimulation of the corpus striatum rather than to loss of striate function.

G. W. T. H. Fleming.

Tumours of the Pineal Gland. (*Arch. of Neur. and Psychiat., November*, 1927.) *Haldeman, K. O.*

The author describes 2 cases of tumours of the pineal gland with clinical and pathological findings. In children tumours of the pineal gland are occasionally accompanied by sexual precocity, adiposity, and internal hydrocephalus. 113 cases in the literature showed the following histological diagnosis: sarcoma 24, teratoma 22, cyst 14, glioma 11, pinealoma 10, hyperplasia 4, carcinoma 4, adenoma 4, psammoma 2, unclassified 18. Macrogenitosomia præcox was found in 16 cases, all between 3 and 16 years of age. Blindness or impairment of vision occurred in 45 cases. The most important of

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the eye signs in cases of pineal tumour are: Paralysis of upward movement, diplopia, abducens paralysis, nystagmus, ptosis and absence of the pupillary light reflex. Of 102 cases in which the sex was reported, 78 were male and 24 female. 18 cases showed either convulsions or epilepsy. G. W. T. H. FLEMING.

A Syndrome of the Cerebral Origins of the Visceral Nervous System. (*Arch. of Neur. and Psychiat., August*, 1927.) *Kraus, W. M., and Perkins, O. C.*

The authors describe a case showing progressive growth resulting in gigantism and mild acromegaly; muscular atrophy of the extremities and trunk on one side of the body with hemiparesis, and absence of reaction of degeneration; and associated with creatinuria, mild hypersomnia, and diabetes insipidus, which was controlled by the administration of pituitary solution. Somatic muscular atrophy is due to a lesion of the final common pathway; visceral muscular atrophy to a lesion somewhere on the pathway of the vegetative nervous system from the region of the tuber cinereum to the muscles themselves. G. W. T. H. FLEMING.

The Functions of the Cerebellar Nuclei as determined by Faradic Stimulation. (*Arch. of Neur. and Psychiat., January*, 1928.) *Miller, F. R., and Laughton, N. B.*

The authors applied faradic stimulation to the cerebellar nuclei of the decerebrate cat. Typical responses of the nuclei were as follows: Stimulation of the nucleus emboliformis and nucleus globosus gave marked flexion of the ipsilateral foreleg, inhibition of decerebrate rigidity in the contralateral foreleg, flexion of the ipsilateral hindleg, curvature of the body and ocular movements. The nucleus dentatus gave flexion, sometimes repeated, of the ipsilateral foreleg palmar flexion in the contralateral foreleg, more rigid hindlegs and curvature of the body. The nucleus fastigii gave strong flexion of both forelegs, and flexion of the ipsilateral hindleg. Efferent pathways for reactions of the lateral nuclei are through the branchium conjunctivum, nucleus ruber and rubrospinal tract, possibly also the rubro-reticular tract. The principal efferent pathway for reactions of the nucleus fastigii is through the fastigio-bulbar tract (fasciculus uncinatus of Russell). The responses of the cerebellar nuclei are co-ordinated changes in postural tone with augmentor and inhibitory components. They are regarded as analogous to the co-ordinated movements elicitable from the cerebral cortex; the cerebellar nuclear responses are tonic and the cerebral responses phasic.

G. W. T. H. FLEMING.

Unsolved Problems Suggested by Cerebellar Connections and Cerebellar Histology. (*Arch. of Neur. and Psychiat., January*, 1928.) *Strong, O. S.*

After very carefully considering the various connections of the cerebellum and the structure of the cerebellar cortex, Strong comes

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to the conclusion that our knowledge is very small, and we know less about the neo-cerebellum than about the palæo-cerebellum.

G. W. T. H. FLEMING.

Cerebellar Symptomatology Evaluation on the Basis of Intracerebellar and Extracerebellar Lesions. (*Arch of Neur. and Psychiat., January*, 1928.) *Keschner, M., and Grossman, M.*

A comparison of the asynergic and other symptomatology of intra-cerebellar lesions with cerebello-pontine angle lesions, brain stem lesions and supra-tentorial lesions with cerebellar symptoms. The authors point out that their cases of supratentorial lesions with cerebellar symptoms all developed cerebellar symptoms first, contrary to the more or less accepted rule that these cerebellar signs and symptoms appear late in cases of supra-tentorial lesions.

G. W. T. H. FLEMING.

A Contribution to the Studies of Cerebellar Lesions. (*Riv. di Pat. Nerv. e Ment., July and August*, 1926.) *Buscaino, V. M.*

Buscaino describes a case of right cerebellar cyst in a patient of 23, the diagnosis being confirmed by autopsy. The author emphasizes the following three symptoms:

1. Asymmetry in the position of the head, inclined towards the right with rotation of the face towards the left.
2. Asymmetry in position of the arms held above the head, palms forward, the right palm being rotated inwards (the sign of Janischewski).
3. Asymmetry in the position of the arms held horizontally in front, the right hand being at a lower level than the left.

This is the third case with the sign of Janischewski confirmed at autopsy.

G. W. T. H. FLEMING.

Medullary and Pontine Syndromes. (*Journ. of Nerv. and Ment. Dis., October*, 1927.) *Gerber, R. A.*

After briefly reviewing the anatomy of the pons and medulla, the author gives examples of the syndromes of Tapia, of Horner, of Avellis, of the nucleus ambiguus, pyramid and spinal fillet, of the vestibular nucleus, of abducent alternate hemiplegia, of hemiplegia alternans hypoglossi et facialis, etc. He then discusses the pathology of these various syndromes, and stresses their value as indications of the functions of the pons and medulla.

G. W. T. H. FLEMING.

The Oculo-Auricular Associated Movement. (*Arch. of Neur. and Psychiat., January*, 1928.) *Brickner, R. M.*

In 1908 Wilson observed that when the eyes are deviated extremely to one side or the other there is a slow contraction of the musculus transversus auris. Brickner found this movement in 85% of white people. It is dependent on the integrity of the facial nerve, so that it is of possible clinical use when there is some doubt as to whether the facial nerve is affected or not. It is

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always present in paralysis agitans, so that it is unlikely that the reaction is one of the automatic associated movements mediated through the corpus striatum and substantia nigra. There is a well-marked diminution in the movement where there is weakness of the facial nerve of even slight degree.

G. W. T. H. FLEMING.

Toxic Infectious Disease in the Peripheral and Central Nervous Systems—so-called Neuronitis. (*Arch. of Neur. and Psychiat., January*, 1928.) *Brock, S., and Ivimey, M.*

A series of five non-fatal cases with toxic or infective processes involving the peripheral nerves and the central neuraxis. The authors suggest, as a suitable terminology for these cases, peripheral neuritis for processes limited to the distal parts of the nerve-trunks, radiculitis for involvement of the roots, and central neuritis (spinal, medullary, pontine, etc.) for involvement of the neuraxis. They point out that what Adolf Meyer described as central neuritis in 1901, he now considers to be pellagra.

G. W. T. H. FLEMING.

Myasthenia Gravis. (*Journ. of Nerv. and Ment. Dis., January*, 1928.) *Nielsen, J. M., and Roth, P.*

The authors describe 3 cases in which the myasthenia reaction of Jolly was present at one time or another. The disease seems to occur in persons with small or flabby muscles, and usually affects the bowel muscles as well. Strychnine has little influence on the course of the disease. The basal metabolic rate is normal. The origin of the exhaustion is probably neuro-muscular.

G. W. T. H. FLEMING.

1. *Studies in Stuttering. Introduction.* (*Arch. of Neur. and Psychiat., November*, 1927.) *Orton, S. T.*
2. *Studies in Stuttering. I. Disintegration of the Breathing Movements during Stuttering.* (*Arch. of Neur. and Psychiat., November*, 1927.) *Travis, L. E.*
3. *Studies in Stuttering. II.* (*Arch. of Neur. and Psychiat., December*, 1927.) *Travis, L. E.*

1. Orton considers that stuttering is often an expression of confusion of cerebral dominance, and is more closely allied to the apraxias than to the ataxias. Probably the cerebellum has nothing to do with the disorder.

2. The author investigated the action of the breathing mechanism during normal speech and during stuttering. He found in normal speech (1) a fairly close correspondence between thoracic and abdominal breathing; (2) a greater number of laryngeal than of breathing movements; (3) a complete independence between vertical movements of the larynx and movements of breathing; (4) rhythm in breathing, in the vertical movements of the larynx and in the changes in breath pressure; (5) a disproportionate increase in duration of expiration during speech;

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and (6) the presentation by the abdomen of small in-and-out movements at a rate varying from 5–7 a second. The records of stuttering show a disintegration of certain of the motor speech units, which is apparent at various times in the following ways: (1) A complete antagonism between the action of the thorax and that of the abdomen; (2) a marked synchronism between the movements of the larynx and those of the various units of the breathing apparatus; (3) a marked prolongation of inspiration; (4) large vertical movements of the larynx during inspiration; (5) clonic and tonic spasms of the various muscles of speech production; and (6) the apparent introduction of a new tremor rate in the abdomen.

3. By means of the photographic method, Travis studied the speech of 20 stutterers and an equal number of non-stutterers, using emotional and unemotional repetitive speech and unemotional propositional speech. When a tone is sustained during artistic singing, the pitch is not held constant, but fluctuates at an average variation of one-tenth of a tone above and below its mean. This fluctuation takes place at the rate of from 4–9 per second, and has been called the vibrato. Fluctuations much beyond this range of pitch variation constitute a tremolo. The stutterer's voice in unemotional propositional speech shows the presence of a vibrato and tremolo, periods of tonal fixation and a marked prolongation of tones. In all three types of speech studied, the photographs show a periodic fluctuation of breath-pressure before, between and after tones and short periods of vibrations before the voice-waves proper begin. Some of these effects were found in every stutterer. Certain cases showed, in unemotional propositional speech, the following abnormalities: Waves in the voice curve which present marked variation in length; groups of oscillations of high frequency but low amplitude at a rate of approximately 16 per second, between tones, after a tone or during vocalization; and long series of oscillations at about 500 per second which are initiated suddenly by a wave of much greater amplitude than any that follow it. None of these records are common in photographs of the voice in normal speech. G. W. T. H. Fleming.

Segmental Trophic Œdema of Cerebral Origin. (*Journ. of Nerv. and Ment. Dis., October*, 1927.) *Gordon, A.*

Gordon, after discussing the historical aspect of Quincke's œdema, and the association of various forms of œdema with nervous disease, quotes a case of his own with a trophic œdema limited to one hand and resembling the "main succulente" of syringomyelia. This symptom came on some weeks after an attack of astereognosis, which was the only symptom prior to the œdema. There was also a slightly increased left patellar reflex. The lesion was undoubtedly a thrombotic one in the cortex. The œdema took the form of the trophœdema of Meige—a chronic condition. He suggests that there is a trophic centre in the superior parietal lobule.

G. W. T. H. Fleming.

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2. Psychology and Psycho-Pathology.

Persistent Problems in Systematic Psychology. V. Attention and Association. (*Psychol. Rev., January*, 1928.) *Wheeler, R. H.*

The purpose of this paper is to discuss the problem: Are attention and association legitimate and useful concepts in present-day psychology. "Attention and association have been used from different standpoints to account largely for the same set of facts. In the abstract this set of facts is the orderly grouping and seriation of detail in mental life." Associationism is as much an issue as ever. The history of associationism is discussed in its barest outlines; Locke, Berkeley, Hamilton, Mill, Spencer, Lewis, etc., are referred to, until we come to Wundt, who discarded the two-level notion of the conscious and subconscious, and substituted for it the notion of focus and margin; thus our modern conception of attention was born.

In a second chapter the author discusses the different attitudes taken towards association by the configurationists and introspectionists. He considers the least animistic conception in psychology, corresponding to the notion of gravity, attraction, repulsion, etc., in physics, to be that of association. With reference to the term "Gestalt" he says: "Our concept of sensory process, perception, feeling, thought—indeed all psychological phenomena—have evolved upon the basic framework of association and attention." Attention and association are necessary, not only to explain for mental growth, but to complete the description and to summarize facts on the structural side. With reference to Titchener, it is stated: "He regarded functional psychology as unscientific, and structural analysis as the only real scientific method. In the short period of 15 or 20 years . . . the configurationists and their followers seem to be taking the opposite stand, and one which, of course, is equally extreme, namely, that common sense has already supplied us with enough structural analysis to maintain indefinitely a programme of functional analysis. One cannot help but be suspicious of such extreme views, and still more suspicious of so rapid a shift from one to the other." "Very likely, attention is as badly in need of a redefinition as association; moreover it should be descriptive rather than an explanatory concept, pointing to phenomenological balance between the members of any configuration, and to changes in phenomenological properties. Thus, while association describes the relationship between parts, attention describes the relation of parts to the whole." "While the concepts of attention and association may have been wrongly applied at times and overdone, they did satisfy the logical demand for a common denominator—for general, unifying concepts—a demand which the newer psychology neglects, even in its emphasis upon unity and wholes."

In concluding the paper the author says: "As originally used, the term 'association' meant not only organization of mental processes, but the reason for that organization; it was a self-sufficient principle—both cause and effect. While we no longer regard it as

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cause, we still use the concept to mean integration or organization on the level of conscious behaviour." "Association is the problem of pattern. Attention is the problem of the form and limits of pattern." A. WOHLGEMUTH.

Temperamental Tests: An Experimental Investigation into some Traits of Character and Temperament. (*Brit. Journ. of Med. Psychol., vii, Pt.* 4, *January* 30, 1928.) *Allen, Eleanor A.*

A research on the application methods that are used in cognitive tests to tests of affective and conative traits. The *a priori* objection to such tests is that, whereas in intelligence tests the subject is, as it were, screwed up to do his best, and has, generally speaking, no desire but to do his best in temperamental and character tests the conditions are fundamentally different. Temperament and character manifest themselves by reaction to environment according to individual dispositions. It is impossible to reproduce in the laboratory even a semblance of the conditions of the actual environment. A timid and submissive individual might, when insulted, pocket the affront and even apologize for his very existence, in the laboratory, when the stimulus word "insult" is presented to him, he might thrill with indignation and react with "revenge," "knock down," etc. Similar and other objections obtain against the questionnaire method also employed, and it is no wonder that the reliability coefficient was found to be low. A. WOHLGEMUTH.

An Experiment at Fontainebleau: A Personal Reminiscence. (*Brit. Journ. of Med. Psychol., vii, Pt.* 4, *January* 30, 1928.) *Carruthers, J.*

This is an account by the author of his stay at the institute of the mystic, George Gurdjieff, at Fontainebleau. A. WOHLGEMUTH.

A Theory of Simultaneous Colour Contrast. (*Psychol. Rev., January,* 1928.) *Focht, Mildred.*

A short description of some experiments to show that "Unless spectral white light (*i. e.*, light composed of all colours) is mixed with the coloured light from any surface, that surface will show no simultaneous colour-contrast." A. WOHLGEMUTH.

Factors influencing the Relative Economy of Massed and Distributed Practise in Learning. (*Psychol. Rev., January,* 1928.) *Ruch, Theodore C.*

This paper reviews the literature on the optimal distribution of work and rest periods, to determine how and to what extent the various conditions of learning affect the relative economy of different degrees of distribution. It is followed by a bibliography of 39 items. A. WOHLGEMUTH.

An Interpolation Procedure for Calculating Thresholds. (*Psychol. Rev., January,* 1928.) *Newhall, Sidney M.*

The results of this investigation are stated as follows: (1) Limina calculated by the interpolation process described do not appear to

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differ essentially in value from limina calculated by the constant process from the same data. (2) The interpolated limina appear to be of fairly satisfactory order of reliability—one which in fact appears about the same as that of the constant process. (3) A measure for the reliability of the interpolated limina is suggested and to some extent empirically justified. (4) It seems practicable to reduce the number of the comparison stimuli used in the experimentation from 5 to 3. (5) Limina calculated by the normal interpolation from the reduced number of frequencies appear to retain about the same value of variability as when 5 stimuli are used—at least when the subject passes the same total number of judgments. These results, as well as the simplicity of the interpolation process, point to its feasibility for general use.

A. WOHLGEMUTH.

Ability versus Effective Ability. (*Psychol. Rev., January*, 1928.) *Witty, Paul A., and Lehman, H. C.*

The authors combat a statement by Galton and Schuster by saying that "Ability is not identical with *effective* ability . . . the fruits of genius are a function of no less than three integers, namely, *ability*, *drive* and *opportunity*. This position is (to the authors) unassailable and would not require elaboration but for the tendency of some recent writers to confuse ability with effective ability, thus over-simplifying the problem of genius. A. WOHLGEMUTH.

Biozentrische Psychoanalyse [*Biocentric Psycho-analysis*]. (*Psych.-Neurol. Wochens., January* 14, 1928, No. 2.) *Juliusburger, O.*

Apparently an attempt to reconcile the schools of Adler and Freud. The will to power and sexuality are but expressions of the "will to live." A. WOHLGEMUTH.

Die Feststellung von Hypnose [*The Ascertainment of Hypnosis*]. *Psych.-Neurol. Wochens., January* 14, 1928, *No.* 2.) *Haupt, J.*

There is, for the operator, no absolutely certain objective criterion of actual hypnosis. The statement of the subject, *if reliable*, is of greater value. A. WOHLGEMUTH.

Psychological Bulletin, vol. xxiv, No. 8, *August*, 1927.

This number contains general reviews and summaries of:

(1) "The Acquisition of Skill," by John A. McGeoch. It covers the period from January, 1917, to, apparently, 1926.

(2) "The Curve of Continuous Work and Related Phenomena," by Llewellyn T. Spencer. It covers the period from 1921 to the end of 1926.

(3) "Inhibition and Facilitation," by A. G. Bills. It covers the period from 1921 to 1927.

(4) "Some Physiological Conditions of Efficiency," by Chester W. Darrow. The period covered is, apparently, from 1912 to 1927.

These last two reviews may prove of special interest to psychiatrists. A. WOHLGEMUTH.

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Psychological Bulletin, vol. xxiv, No. 9, September, 1927.

This number contains a report of the proceedings of the twenty-second annual meeting of the Southern Society for Philosophy and Psychology at Athens, Georgia, in April, 1927. It also contains the following two general reviews and summaries:

(1) "Psychological Studies of Historical Personages," by F. Fearing.

(2) The Literature on Hypnotism. A. WOHLGEMUTH.

The Influence of Muscular Tension on the Efficiency of Mental Work. (*Amer. Journ. of Psychol., April*, 1927.) *Bills, A. G.*

Muscular tension increases the efficiency of mental work. This increase is enhanced with practice, where speed is the criterion, but remains constant where other criteria are used; it increases still further as the subject grows more fatigued where speed is the criterion, but remains constant where other criteria are used.

G. W. T. H. FLEMING.

Three Psycho-physical Laws. (*Psychol. Rev., November*, 1927.) *Thurstone, L. L.*

In a previous article, "Psycho-physical Analysis," published in the *American Journal of Psychology*, 1927, the author showed that Weber's law and Fechner's law are separate laws, and he now formulates a third which he calls the law of comparative judgment. The present paper purports to explain the differences and the similarities in these three psycho-physical laws.

WM. MCWILLIAM.

The Consistency of Sex Differences in Mental Traits at Various Ages. (*Psychol. Rev., November*, 1927.) *Goodenough, F. L.*

The author concludes that mental differences between the sexes are very small in comparison with the amount of variation found to exist between members of the same sex. As far as educational procedures are concerned, they may be safely ignored.

WM. MCWILLIAM.

Feeling and Emotion. (*Psychol. Bull., October*, 1927.) *Washburn, M. F.*

This article is a comprehensive review of the work done on feeling and emotion from 1925 to July, 1927. The references are necessarily extensive, numbering eighty-one. Many aspects of feeling (pleasantness—unpleasantness) and emotion are discussed by many workers in the field, and their views are briefly summarized.

WM. MCWILLIAM.

Sexual and Social Sentiments. (*Brit. Journ. of Med. Psychol., July*, 1927.) *Flügel, J. C.*

There is antagonism between the manifestations of sexuality and sociality. According to one view the sex and herd instincts are

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quite separate; according to Freud the herd instinct is only a special differentiation of the sex instinct. Social tendencies differ from sexual tendencies by the absence of the sensual element, and by greater permanence, identification and diffusion. All these factors make social relations between members of the same sex easier than between members of the opposite sex. The greater development of male homosociality Flügel considers to be due (i) to the anti-social influence of the greater narcissism of women (ii), to the fact that women are more monogamously inclined and have more to gain by marriage, (iii) to the fewer facilities for social relationships afforded by women's work, and (iv) to the seclusion of women.

The recent increased social life of women is taking a heterosocial form and so tending to increase the heterosociality of men. Interests of the family to some extent oppose the development of social sentiments, but at the present day the influence of the family is waning. Romantic love aids the formation of social sentiments, for it demands some degree of aim inhibition, a limitation of egoism and narcissism, increased sublimation, and an overflow of love to others.

G. W. T. H. FLEMING.

Shyness. (*Journ. of Neur. and Psycho-path., October*, 1927.) *Hampton, F. A.*

Dr. Hampton suggests, with Prof. McDougall, a likeness between schizophrenia and shyness, which may be sufficiently close to cause difficulty in diagnosis.

He further discusses conflict and the inferiority complex in relation to shyness, and the mechanism of its phenomena. He finds that on occasion shyness has its advantages. It often appears on investigation to be the involuntary expression of a repressed tendency to self-assertion.

He believes that the most satisfactory method of treatment "is to help the patient to a knowledge of the source of his feeling of inferiority, and when this is fully disclosed it will seldom be found that he is unable to deal with it effectively."

WM. MCWILLIAM.

The Functional Psychoses as an Evolution of Psychic Impotency. (*Journ. of Nerv. and Ment. Dis., August*, 1927.) *Cassity, J. H.*

The authors divide the psychically impotent into four groups, based on Rank's sequences of sexual development. Group I contains those traumatized at weaning, and includes (*a*) those who, through compensatory substitution, become either latent or active homosexuals as a result of the trauma, and (*b*) those who remain sexually at nursing level. Group II contains those individuals fixated to pre-adolescent love objects in a latently incestuous manner. Group III contains those individuals sexually traumatized through innocent pre-adolescent sexual indulgences of incestuous nature. Group IV contains those whose love energies are dissipated in avenging imagined parental desertion or neglect,

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(*a*) as a result of the death of a parent of the opposite sex, (*b*) due to jealousy of parent of the opposite sex (Rank mechanism).

G. W. T. H. FLEMING.

The Fantasy of not belonging to one's Family. (*Arch. of Neur. and Psychiat., December*, 1927.) *Lehrman, P. R.*

Lehrman makes four divisions of this fantasy: The fantasy of illegitimacy of (*a*) one's self, (*b*) one's sister or brother, (*c*) one's offspring, the fantasy of having been adopted, the fantasy of royal lineage, and the fantasy of savage lineage. Apart from the delusions of fantasy, the feeling of "not belonging" occurs in many types of neurotic actions. Lehrman sees in the changing of names an unconscious motive. The fantasy of not belonging to the family is one of the expressions of the œdipus complex. In abjuring one's relationship to the family, one inverts the wish to remove the rival parent, and at the same time it clears the way for the sexual striving for the opposite parent by eliminating the dread of incest.

G. W. T. H. FLEMING.

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3. Clinical Psychiatry.

Zur Frage der sog. Menstruationspsychosen [*Concerning so-called Menstruation-psychoses*]. (*Psych.-Neurol. Wochens., December* 24, 1927, *No.* 52.) *Prengowski, P.*

This paper contains descriptions of 10 cases of menstrual psychoses which can be differentiated into two sharply separated groups. The first 7 cases showed a diminution of the menstrual flow accompanied by psychic excitation, etc. Agomensin was the remedy in these cases. Cases 8–10 showed the opposite clinical picture—excessive menstruation with stupor yielding to sistomensin treatment.

A. WOHLGEMUTH.

A Case of Juvenile General Paralysis. (*Irish Journ. of Med. Sci., February*, 1928.) *Rutherford, H. R. C.*

The author reports a case of general paralysis in a boy, "aged almost 10 years." Mental and physical states are briefly noted, but the history is dealt with in greater detail.

WM. MCWILLIAM.

The Sequelæ of Encephalitis Lethargica. (*Brit. Journ. of Med. Psychol., July*, 1927.) *Shrubsall, F. C.*

The author draws his material from the London area, where in the seven years ending 1925 there were 1,325 cases notified, with a death-rate of 37%, serious incapacity in 22%, and apparently complete recovery in 28%. He briefly summarizes the physical symptoms before considering the mental changes. In children, intellect is affected varying from hebetude to imbecility. In testing the intelligence of these children, the result is somewhat improved if more time is allowed. In adults the results have varied. Some have been able to pass degree examinations, notwithstanding great

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difficulty in continuous application. Encephalitis increases irritability and diminishes the power of self-control. In 70 cases of conduct disturbances, there were irritability, moodiness, restlessness and excitability in 45, lack of control in 26, evidence of conversion neurosis in 4, pilfering in 18, and sexual assault in 2. Shrubsall thinks that many of the difficulties are due to erroneous treatment subsequent to the illness. The children need discipline and care all the time. In adolescents the mental changes are apathy, undue irritability, lack of concentration and a marked impulsive response to the suggestions of the moment. In some adults the mental changes much resemble those following some forms of alcoholism or cerebral syphilis. The author points out the resemblance to chorea, the rheumatic form of encephalitis, where increased irritability, diminution in the power of sustained attention, and lowering of the mental age or check in educational and intellectual progress may be noted. Retardation is not of long duration, though it may extend to the end of school age. G. W. T. H. FLEMING.

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4. Pathology.

The Origin of Myelin. (*Arch. of Neur. and Psychiat., August*, 1927.) *Cornwall, L. H.*

The author investigated the brains of rats at various stages of development, *i.e.*, prenatal, at birth, at 1, 3 and 8 days. He found that before myelination occurs the vascularity of the neuraxis is greater than at later periods. The blood-vessels appear to converge in great abundance on the nuclei of the third, sixth, eighth and twelfth nerves before or simultaneously with the first appearance of myelin around the axons of these nerves. Preceding myelination, cells are present in the ventricles and subarachnoid space that are extravascular and stain similarly to the contents of the blood-vessels. At birth, and at one day, cells similar to those in the ventricles and subarachnoid space may be seen within the axis in a peripheral situation at the level of the lateral processes of the fourth ventricle. Structures having the appearance of hollow tubes or sheaths may be seen in the axis before myelin appears. The staining reactions of these tubular structures would indicate that they contain fatty acids. G. W. T. H. FLEMING.

Long Section Blood-Sugar Tolerance Study in a Case of Depression. (*Arch. of Neur. and Psychiat., January*, 1928.) *Raphael, T., Ferguson, W. G., and Searle, O. M.*

In the depressed phase of a typical case of manic-depressive insanity blood-sugar tolerance showed an abnormal reaction following the ingestion of glucose. There was a curve of decreased tolerance resembling that found in diabetes mellitus. This abnormality disappeared with clinical recovery. The authors consider it probable that the vegetative and endocrine systems may be implicated through central influence. Hepatic function may also be implicated. G. W. T. H. FLEMING.

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The Adrenalin Glycæmic Curve as a Diagnostic Aid in Psychiatry. (*Amer. Journ. of Psychiat., September*, 1927.) *Gordon, H., Ostrander, J. M., and Counsell, S.*

The authors, after discussing the results of other investigators on blood-sugar in the psychoses, give their own results by means of the adrenalin glycæmic curve. In manic-depressive psychoses the curves showed a relatively well-defined peak and delayed return of the blood-sugar to the initial level. In dementia præcox the curves show more or less of a plateau, and a quicker return to the fasting level. In a small series with hepatic disease the curves tend to become flat, and show a terminal rise. In the endocrinopathies a similar curve is obtained. The authors consider the test a means of differentiating between manic-depressive and schizophrenic cases.

G. W. T. H. Fleming.

Observations on Experimental Convulsions, with Special Reference to Permeability Changes. (*Amer. Journ. of Psychiat., September*, 1927.) *Syz, H. C.*

The author, basing his theories on the work of Abel some 15 years ago, investigated the action of acid fuchsin and other dyes by means of damage to the nervous system by asphyxiation. He found that there was increased permeability to the dye and a tendency to convulsions. The fact that brain injury as well as asphyxia increases the effect of acid fuchsin suggests that there must be some factor in addition to permeability changes. In asphyxia the accumulation of waste products and the change of the acid-base balance increase the permeability of the cerebral vessels, and so allow the passage of water-soluble substances from the blood into the surrounding nervous substance. Georgi points out that the influence of alcohol and of certain diets on convulsive phenomena may be due in part to permeability changes.

The author's results support the theory that changes in permeability of the vessel walls play some part in the epileptic seizure.

G. W. T. H. Fleming.

1. *Studies of Metabolism in Epilepsy. II, The Sugar Content of the Blood.* (*Arch. of Neur. and Psychiat., September*, 1927.) *Lennox, W. G., O'Connor, M., and Bellinger, M.*
2. *III, The Blood-Sugar Curve.* (*Ibid.*) *Lennox, W. G., and Bellinger, M.*

1. Tests in 267 epileptics showed no abnormality of the blood-sugar, and no direct relation between the blood-sugar level and seizures. The increase of blood-sugar during convulsions may depend on the presence of available glucose in the body.

2. Of 140 epileptics, 24% showed abnormally high blood-sugar curves, 6% abnormally low, and 70% normal curves. About 10% had high sugar curves which could not be accounted for by coincident disease conditions, and which remained high on repeated examination. These patients were probably potential diabetics. A larger percentage showed marked variation in the form and level

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of successive sugar curves, or abnormal fluctuations in the renal threshold for sugar. There is no evidence from the authors' data that abnormality of carbohydrate metabolism might in itself induce seizures. G. W. T. H. Fleming.

The Erythrocyte Sedimentation Reaction. (*Arch. of Neur. and Psychiat., January*, 1928.) *Goldwyn, J.*

The acceleration of the reaction depends upon the amount of mental deterioration, the amount of organic destruction and the amount of toxicity present. Unless the cases are complicated by physical disease, the sedimentation reactions are normal in cases of manic-depressive psychoses, psychopathic personalities, psychoneuroses and paranoia. Increased readings are found in all cases of senile psychoses, psychoses due to cerebral arterio-sclerosis, general paralysis, neurosyphilis, psychoses showing mental deficiency or somatic disease, acute types of alcoholic psychoses, and in many cases of epileptic psychoses and involutional melancholia. In dementia præcox the simple and paranoid types tend to give normal readings, while the hebephrenic and chiefly the catatonic types tend to give slightly accelerated reactions. No case of dementia præcox gave a marked increase unless complicated by some physical disorder. G. W. T. H. Fleming.

On the Pathology and Laboratory Diagnosis of Paresis. (*Journ. of Nerv. and Ment. Dis., January*, 1928.) *Proescher, F., and Arkush, A.*

After summarizing the recent work of Spatz and Steiner, the authors give the results of their own methods of staining with thiazin red. Iron from the destruction of ganglion cells in the cortex is phagocytosed by the Hortega cells. These iron-containing cells then float into the perivascular spaces and gain the cerebrospinal fluid, where they can be demonstrated by centrifuging 5–10 c.c. To the sediment is added 5 c.c. of an alcoholic ammonium hydroxide sulphide solution made up as follows:

96% alcohol	95 c.c.
Aqueous solution of ammonium hydrosulphide	5 c.c.

This is then centrifuged, and a few drops of the sediment examined on slides under a cover-glass with a high dry objective. The iron which is of diagnostic value exists only in the adventitial cells, which appear large, irregular and refractile. The pigment is generally in the form of large angular or rounded granules which are deep black. G. W. T. H. Fleming.

The Kafka Paraffin Reaction in the Spinal Fluid. (*Arch. of Neur. and Psychiat., January*, 1928.) *Karnosh, L. J. O., and Rademakers, A. J.*

The authors recommend the paraffin reaction and find that the results are similar to the gum mastic reaction, but the technique is more difficult because of the temperature requirements.
G. W. T. H. Fleming.

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Pathological Changes in Huntington's Chorea. (*Arch. of Neur. and Psychiat., December*, 1927.) *Dunlap, C. B.*

This paper is a comparative study of 17 cases of undoubted Huntington's chorea, 12 somewhat doubtful cases, and some 30 miscellaneous or control cases. The most striking feature was a reduction in size of the corpus striatum. No foci of softening were found anywhere. The ratio, weight of cerebrum to weight of cerebellum, was only 5·8 to 1, instead of 7·2 to 1 of the control cases. This loss in weight is due to atrophy of the white matter. The corpus striatum was found to be on an average less than half as large as in the control cases. Microscopically there was enormous loss of nerve-cells in the putamen, especially in the posterior three-fourths, less in the anterior fourth and in the head of the caudate nucleus.

There was no loss of nerve-cells in the globus pallidus, but a relative increase. In a majority of cases an extensive neuroglia proliferation accompanied the degenerations. The cortical nerve-cells when compared photographically with the controls were generally darkly stained and looked shrunken. The smaller nerve-cells in the cortex were so reduced in size that on a general low-power inspection they were hardly distinguished in size from the neuroglia. Where staining was successful there was a plain neuroglia reaction in the deeper layers of the cortex, consisting of the presence of large vesicular neuroglia nuclei with swollen-looking neuroglia fibres associated with them. Dunlap considers it wise to leave open the question whether the motor disorders in Huntington's chorea depend on lesions in the striatum, while the mental disorders depend on lesions in the cortex.

G. W. T. H. Fleming.

The Pathology of Amyotonia Congenita. (*Arch. of Neur. and Psychiat., December*, 1927.) *Grinker, R. R.*

A case of amyotonia congenita, and a review of the published autopsy reports on this disease and on the Werdnig-Hoffmann type of progressive muscular atrophy. In these diseases two groups of cases can be differentiated, with different types of lesion in the spinal cord. In one there is a paucity of cells of the anterior horn and abnormal cells are found, in the other there is actual degeneration of the ganglion cells and neuronophagia. It is not possible in the first group to determine whether the process is a developmental defect or a degeneration. The fundamental difference in the two groups is probably only a matter of the time at which the ganglion cells are affected. All the infantile degenerative muscular atrophies may be classed according to this pathological criterion. The first group is called the Oppenheim type, the second the Werdnig-Hoffmann type; there is no definite clinical demarcation between them, each type merging into the other.

G. W. T. H. Fleming.

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Resorption of Cerebro-spinal Fluid through the Choroid Plexus. (*Arch. of Neur. and Psychiat., January*, 1928.) *Forbes, H. S., Fremont-Smith, F., and Wolff, H. G.*

The authors injected into the subarachnoid space a freshly prepared solution shown by Weed to be non-toxic, and consisting of equal parts of potassium ferro-cyanide 1% and iron ammonium citrate 1%. This solution was diluted with an equal volume of distilled water. After a short interval, from 20–30 c.c. of a 30% solution of sodium chloride was injected intravenously or into the peritoneal cavity. Prussian blue granules were found within the vessels of the choroid plexus in each of the twelve animals examined, indicating that the direction of flow of the cerebro-spinal fluid through the choroid plexus may be reversed by increasing the osmotic pressure of the blood. In the authors' opinion the choroid plexus may be regarded as a semi-permeable membrane, and the cerebro-spinal fluid as a true dialysate. G. W. T. H. Fleming.

Results of Histopathological Researches on the Nervous System in Dementia Præcox during the Years 1924–25. (*Riv. di Pat. Nerv. e Ment., July–August*, 1926.) *Buscaino, V. M.*

Buscaino's review of the work for the years 1924–25, with a comprehensive bibliography. He found that in 50% of cases of dementia præcox there have been lesions, (either pre- or post-natal) of the brain or of its membranes. They are not inflammatory in type, but are degenerative. Among the more important changes are nerve-cell degeneration, foci of glial variation, scattered lesions of the nerve pathways, sieve-like conditions, lacunar conditions, foci of rarefaction or of demyelination of the nerve-fibres. These focal lesions occur not only in the cerebral cortex, but also in the basal ganglia, in the mid-brain, cerebellum, and the pons, and even in the medulla. The cortex and especially the thalamus are the most constant sites. In catatonic cases lesions of the striatum and of the other extrapyramidal nuclei are frequent. The brain in dementia præcox is thus permeated with microscopic foci. Sometimes the lesions are concentrated in the frontal lobes, particularly in the third, fifth and sixth layers. The process at work in the nervous system is of exogenous origin and shows a predilection for the third layer. It is probably due to a basic substance—a toxic amine. The fact that the lesions are hardly ever distributed in the same way in two cases accounts for the diversity of symptoms. The author traces the disorder in catatonics to the affection of the extra-pyramidal system. G. W. T. H. Fleming.

5. Treatment.

Über Therapeutische Verwertung von Zentralnervensystem-Substanz [*On the Therapeutic Use of Central Nervous System Substance*]. (*Psych.-Neurol Wochens., February* 4, 1928, *No.* 5.) *Weygandt, W.*

An advocacy of, and a defence against an attack on, a therapeutic preparation known as "promonta." A. Wohlgemuth.

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Occupational Therapy from the Viewpoint of the Superintendent of a State Mental Hospital. (*Occup. Therap. and Rehabil., December*, 1927.) *Haviland, C. F.*

The paper stresses the importance of an occupational therapy department in a mental hospital, on the ground that such therapy develops useful reactions in place of anti-social and asocial types of conduct, promotes productive activity and normal emotion, substitutes fact for fancy, and stimulates interest.

WM. MCWILLIAM.

Development of Occupational Therapy in the New York State Hospitals. (*Occup. Therap. and Rehabil., December*, 1927.) *Pollock, H. M.*

Dr. Pollock, of the Department of Mental Hygiene of the State of New York, gives a *résumé* of the development and progress of occupational therapy in the State hospitals.

WM. MCWILLIAM.

Block Printing, Bacon, J. R.; A Cardboard Loom, Haas, L. J. (*Occup. Therap. and Rehabil., December*, 1927.)

Gives the technique of the crafts of block printing and weaving with a special loom constructed of cardboard for safety among impulsive patients.

WM. MCWILLIAM.

The Intraventricular Treatment of Paresis. (*Journ. of Nerv. and Ment. Dis., September*, 1927.) *Cestan, Riser and Pérès.*

These authors found that when the ventricular fluid has a high cell-count and high albumen content, a considerably larger dose of salvarsan can be injected into the ventricles with impunity than when the fluid is normal. As the albumen content and cell-count decrease, the dose of the drug must be decreased. In 50% of cases the albumen content, the cell-count and the Wassermann reaction became normal under this treatment, but unfortunately there was absolutely no clinical improvement. The spinal fluid was modified to a very much less extent. The colloidal benzoin reaction was quite uninfluenced in both ventricular and spinal fluids.

G. W. T. H. FLEMING.

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6. Sociology.

The Field of Social Psychology. (*Psychol. Bull., December*, 1927.) *Young, Kimball.*

This review covers the period from the appearance of Allport's article in 1925 to the end of 1927, and does not include material from the field of personality. Some 279 papers and books are referred to under the following headings: 1. Historical and theoretical phases of social psychology. 2. The biological foundations of social behaviour. 3. Social behaviour and social environment.

A. WOHLGEMUTH.

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Criminology. (*Psychol. Bull., December*, 1927.) *Gault, R. H.*

101 publications are referred to in this review, which begins with October, 1925. It is stated that no revolutionary publications have appeared during this period, and that conservatism seems to be the order of the day among workers in this field.

A. WOHLGEMUTH.

Venereal Disease and Delinquency. (*Medico-Legal Journ., September–October*, 1927.) *Richmond, Frank C.*

Every penal and correctional institution should be a trap for venereal disease. No inmate with such should be liberated until the disease has been brought under control. In Wisconsin, during a three-year period, there were 3,363 admissions to these institutions, and among these were found 5·7% of cases of active gonorrhœa, and 5·5% of active syphilis. The incidence of gonorrhœa was most marked among the women and girls. In the Milwaukee County House of Correction, blood Wassermanns have been taken from all inmates committed for twelve months or more. During a two-year period 479 such examinations were made, and of these, 16% were found to be positive for syphilis.

M. HAMBLIN SMITH.

The Need for Co-operation between the Legal Profession and the Psychiatrist in dealing with the Crime Problem. (*Amer. Journ. of Psychiat., November*, 1927.) *White, William A.*

Psychiatry has special advantages for observing the springs of human conduct; but the criminal law is based upon obsolete concepts, and present penal methods are quite inadequate. The main factor in the problem is the psychology of the individual offender; yet the law lays emphasis upon the act, rather than upon the actor. Law and psychiatry must work together. The object of both professions is the protection of society against anti-social individuals. But our present penal methods must be abolished. No enduring structure can be based upon fear and hate Vengeance as a factor in punishment must be got rid of, even if it is disguised as deterrence. Punishment should be used to achieve definitely constructive ends in the conditioning of conduct. Fixed sentences must be abolished; return to freedom must be conditional upon some improvement in the offender. Prisons should be transformed into laboratories for the study of human conduct. The antiquated and meaningless concept of responsibility must be discarded. Persons who act in an anti-social manner must be restrained; how this can best be done depends upon what kind of people they are, and does not involve the raising of metaphysical questions. A condition requisite for appointment as a criminal judge or prosecutor should be a knowledge of modern criminology and such officials might well be called upon to study in prisons and in psychiatric clinics.

M. HAMBLIN SMITH.

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Interests of College Students. (*Amer. Journ. of Psychol., July,* 1927.) *Wilson, M. O.*

Any given student may gratify the same general intellectual desire equally well in the several different departments. Students in one of the sciences tend to seek a wider range of experiences than do those who are interested in the humanities. On the basis of scholarship the foreign language students, especially the ancient language students, are not only superior to all other students, but exhibit a wider range of interests. The social science students show a diversity of interests almost equal to that of the classics students, but their scholarship in all departments, including their own, is considerably below the average. G. W. T. H. FLEMING.

Criminal Tendencies in Normal Children. (*Brit. Journ. of Med. Psychol., July,* 1927.) *Klein, M.*

As early as the second year, when the child has already gone through its oral fixations, the super-ego is at work. Criminal tendencies are in large part due to oral and anal-sadistic impulses. When the œdipus complex sets in, which, according to Klein, is at the end of the first year, it becomes associated with these two impulses. The conflicts which arise owing to the love of the child for objects which at the same time it hates are repressed into the unconscious. Klein points out that the child easily forgets trials and troubles by a flight from reality; he tries at the same time to adapt reality to his phantasies. The play-life of children is concerned entirely with the child's impulse-life and desires. It is anxiety and the feeling of guilt which drive the criminal to his delinquencies. In committing these he partly tries to escape from his œdipus situation. The author considers that the cause of a criminal development is the development of the super-ego in a different direction, and that psycho-analysis ought to be able to cure this. G. W. T. H. FLEMING.

7. Mental Hospital Reports.

ENGLAND.

Derby Borough Mental Hospital.—The number of patients at this hospital at the end of the year 1926 was the same as at the beginning of the year, and there were admitted during the year 106 patients. There were on the registers on December 31, 1926, in addition to 399 patients belonging to Derby Union, 30 private patients, 22 service or ex-service patients, and 32 out-borough cases. Of the ætiological factors amongst the admissions, heredity was found in 31% of the cases; critical periods and mental stress were other factors of importance, syphilis was present in 3 cases, and alcohol was deemed a principal cause in 2 males.

The percentage of recoveries on the direct admissions was 28%, and over 50% of these recovered during the first year.

The death-rate for the year was 7·4%, and the chief causes of death were senility and heart disease.

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East Sussex County Mental Hospital.—Hellingly: During the year 1926, 260 patients were admitted, and there remained on the books at the end of the year 1,211 cases of all classes, or 18 more than at the beginning. Of the 153 female direct admissions the prognosis was good in only 49 cases, and of the 84 direct male admissions the prognosis was good in only 27. The largest number of admissions occurred in the decade 45–54.

Of causation, Dr. Taylor reports that " the commonest disabilities are gastro-intestinal disturbances—including pyorrhœa—arterio-sclerosis and senility. These disorders act as predisposing causes in the majority of cases, although in some toxic conditions they may be the exciting cause of the mental attack."

The recovery-rate for the year was 40·25%.

The report on the work of the pathological laboratory under Dr. Geoffrey Shera emphasizes its value in the examination and treatment of patients. An enormous amount of work was done during the year in routine examinations, special examinations, and therapy, and a very valuable *résumé* is given of the exact results of treatment by the Wagner-Jauregg method of 15 cases of general paralysis, many of whom showed considerable improvement.

Dr. Taylor continues his clinic for mental cases at the Princess Alice Hospital, Eastbourne, but believes that this work is of limited value because there is no provision for the admission of voluntary patients to county mental hospitals.

Ipswich County Borough Mental Hospital.—There remained in this hospital at the end of the year 1926, 324 patients, or 10 less than at the beginning of the year. There were admitted 54 patients, of whom 47 were direct admissions, and of these the principal ætiological factors ascertained were: insane heredity, mental stress, syphilis, climacteric, cardio-vascular degeneration; in only one case was the condition considered attributable to excess of alcohol. The recovery-rate for the year was 42·55%.

Three male cases of general paralysis were treated by induced malaria, and of these one recovered, one died and one showed no improvement, and Dr. Ogilvie reports that 2 cases of general paralysis, who had received this treatment and were discharged in 1925, still remained well.

Increase of accommodation appears to be the insistent necessity of this hospital, and Dr. Ogilvie suggests that the wisest and most economical method of providing this is the erection of a suitable nurses home and the provision of a detached admission hospital.

London County Mental Hospitals.—The report is for the year ending March 31, 1927, and shows that the statutory accommodation provided by the Council for mental patients (excluding Claybury Hall for private cases only) is 19,644 beds—which, as the result of structural alterations and additions already in hand, will shortly be increased to 20,391. At all the mental hospitals, with the exception of West Park, the number of patients is in excess of the measured accommodation, and in addition contracts for reception

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of cases were in existence at nine county or borough hospitals for some 400 patients.

The monthly applications for admission to the hospitals show a remarkable constancy over a period of years, and this year's figures only exceeded the previous years by 16; the hospitals with the largest number of direct admissions were West Park, Colney Hatch, Banstead and Hanwell.

The recovery-rates of the different hospitals vary but little, showing an average of 18%, which is probably an index of the cautious attitude of the medical superintendents in scientifically assessing the value of this difficult phrase; the records of re-admission of "recovered" cases over a considerable period show a constant figure, indicating that with all the knowledge and care used, about 30% relapse sooner or later, and about 11% within the year.

The long list of scientific work done by members of the medical staff shows valuable contributions to medical literature. Much research work is being done on post-encephalitic cases at West Park and the Manor institutions.

The record of work done in connection with the after-care of patients through the agency of the Mental After-care Association is extremely interesting, and shows with great clearness the valuable work accomplished by this great voluntary association.

The "farm account" of mental hospitals is sometimes severely criticized. The decision of the sub-committee to publish a "trading" account, in which certain hypothetical charges are made for rent, rates, etc. (but not patients' labour), in addition to the ordinary "farm account," is of interest.

The maintenance charge for the year was 28*s.* 7*d.*

Maudsley Hospital.—The present is Dr. Mapother's third report, and the accompanying statistical tables cover the period from February, 1925, to December 31, 1926, the object being that, in the future, reports and records shall correspond with the calendar year.

The report is one of great interest and value, and establishes without any shadow of doubt the real and steadily increasing usefulness of this hospital to the community and the profession. A large number of early cases of mental disorder are dealt with, from an area corresponding to a four-mile radius from the hospital, and many cases are referred to the hospital by their own doctor. The hospital and its laboratory have a high educational value for both students and graduates.

Dr. Mapother goes into considerable detail as to the various forms of treatment adopted and the types of case which come under observation, and some of his remarks upon those due to sepsis are of special interest.

"Many fallacies vitiate deductions as to the responsibility of latent infection for mental disorder which may be drawn from the results of treating septic foci. There is no doubt that the frequency of cure by such treatment has been grossly overstated, though obviously it should be carried out where there is any adequate

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indication. This overstatement is the inevitable reaction of those enthusiasts with a preference for the perceptible to obscurantism in other quarters. Much oral sepsis is a secondary consequence of mental disorder; it is apt to lead occasionally to the very fatal complication of parotitis. No doubt such sepsis by toxæmia, by destroying appetite and so forth is of great importance. Similar remarks probably apply to other regions than the mouth, but in many such cases neither does the sepsis start the trouble nor will its treatment cure. Unfortunately even when sepsis seems to have initiated psychosis, results of treatment, though often brilliant, are uncertain. In two cases of long duration, where suppuration in the maxillary antrum was treated by Mr. Jenkins, mental symptoms cleared up dramatically. Unfortunately two other septic cases are so far only moderately improved. In one, infection of the urino-genital tract was associated with an ovarian cyst; in the other it was preceded by a carbuncle and accompanied by a pyæmic joint. The mental states varied, though all showed the usual toxic confusional element.

"Experience here has been that dental extraction (as a rule quite necessary) has more often been palpably responsible for precipitating or aggravating psychosis than any form of untreated sepsis. This has occurred under observation here, *e.g.*, one patient with a mild neurosis developed an acute delirium after clearance of the mouth. There was extreme sepsis, and probably this and some similar cases have originated by increased toxæmia due to formation of an extensive raw surface. The seemingly simple remedy of piecemeal rather than wholesale extractions, however, will not entirely meet the difficulty, since some cases have followed just this method. Often it is difficult to assess the respective shares of toxæmia and emotional stress, and it is possible that for some neurotics a weekly ordeal may be the greater risk. Anyhow, the cases here have been enough to make the whole matter worthy of serious consideration in these days when wholesale extraction has such a vogue."

The summary of the special work and publications that have emanated from the hospital and laboratory shows scientific work of high type and great value.

The review of the financial position of the hospital shows that the average cost has fallen from 91*s.* 9*d.* to 84*s.* 9*d.* per patient per week, and that the contributions from patients have risen from 35% of the total to 42%, with corresponding advantage to the county.

Wilts County Mental Hospital.—At the end of the year 1926, 1,176 patients remained on the register of the hospital, and of these 129 were received under contract. The total number of patients under treatment during the year was 1,400. The direct admissions for the year numbered 177 (M., 68; F., 109), and included a considerable proportion of unrecoverable cases. The chief assigned ætiological factors in the direct admissions were heredity, senility, cardio-vascular degeneration, syphilis and epilepsy; alcohol was regarded as a factor of importance in 7·9% of the admissions.

The recovery-rate for the year was 20·3%, and of those recovered 50% suffered from a first attack of insanity of less than three months' duration.

Dr. S. J. Cole has unfortunately to record a severe epidemic of influenza in the early part of the year, and also an epidemic of dysentery, probably due to an undetected "carrier."

Clinics in connection with the hospital have been successfully established both at Swindon and at Trowbridge, attended respectively by Dr. Cole and Dr. Leech.

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THE LEBANON HOSPITAL, ASFURIYEH, SYRIA.

The report of this international hospital is for the year 1926–7. There were on the register at March 31, 1927, 134 cases (M., 68; F., 66): there had been admitted during the year 176 patients (M., 104; F., 72), and the total number under treatment was 308 (M., 176; F., 132). The form of mental disorder predominating amongst the admissions was dementia præcox. General paralysis occurred in 12 cases, and only 4 cases were attributable in any degree to alcohol, morphia or hasheesh.

The recovery-rate for the year calculated on the admissions was practically 32%. A large number of patients were discharged improved and not improved, to cope with the large admission-rate to a hospital of this size, and relieve the great pressure on its limited accommodation. Dr. Watson Smith remarks on the necessary care in the choice of patients for admission:

"The small size of the hospital, and its invariably crowded condition, makes it imperative that not only the mental condition, but also the circumstances of the patients, be thoroughly investigated before admission. The well-to-do have to pay fully for the maintenance and treatment of their relatives. To this there is obviously no exception, because it would be absurd to seek for support in Europe and America for these. Unfortunately, however, this is a very poor country, and our work here lies mainly among the poor, so it is for them that help is asked and more particularly for their accommodation.

"Preference is always given to indigent cases presenting signs of recent mental disorder—the so-called acute cases—because there is much hope that we can do something towards their recovery. Next in order come those cases whose mental disorder is so great, and whose circumstances are so impoverished, that it is harmful both for them and those about them that they be at large, even although the possibility of cure be more remote. Quiet, chronic cases, who are harmless and can be managed at home if circumstances permit, have to stand aside, as otherwise it would cripple the utility of the hospital to fill up the small number of vacant beds with such cases. Many such cases are brought to me each year for examination and advice. Undoubtedly hospital care would be preferable, but we can only do what our means provide."

There is probably no more interesting mental hospital in the world than the Lebanon Hospital, the only one between Constantinople and Cairo. It was founded in 1896 on Christian ideals, and is carried on to-day in the face of great difficulties, financial and otherwise, by officers who, from the medical superintendent downwards, are imbued with just that same philanthropic spirit which, in earlier days, gave it birth. It is international in character, and is dependent entirely on subscriptions from the various countries of Europe and America, and there is no one who visits it but comes away with a clear conception of the greatness of the work that it is doing, and the ideals of brotherly love underlying the administration.

BESFORD COURT CATHOLIC MENTAL WELFARE HOSPITAL FOR CHILDREN.

This institution has now been in existence for ten years, and is carrying on its excellent work on sound principles and with high ideals. It now confines itself practically to the treatment and

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training of the higher grade type of mental defective, having learnt from experience not only that association with the lower-grade cases is deleterious to the former, but that from the point of view of the welfare of the community, the education, industrial, social and moral, of the higher-grade case is the more insistent requirement.

In this report, Mgr. Newsome gives an interesting historical exposition of the mental deficiency problem from the point of view of Catholic philosophy. Amongst his instances of barbarous treatment of mental defectives we note his restraint in not mentioning Luther, who undoubtedly commended legitimized murder as a method of dealing with the mental defective. Of the four rights which Mgr. Newsome regards as the "Magna Charta" of the mental defective, only the right to freedom and the right to marry are likely to lead to more than passing comment in these days. As regards the former it has been clearly established that a considerable number of high-grade mental defectives, if properly trained and educated, do not require segregation. They are socially well-behaved, requiring little supervision, and may be self-supporting; the best statistical evidence of this is to be found in the recent *Harvard Studies in Education* by Dr. Davis. The right to marry is a more difficult question. It must always be remembered that the prohibition of marriage does not necessarily carry with it the absence of procreation, but, as is pointed out in the recent report of the Board of Control, "the procreation of children by unmarried defectives, deplorable as it is, has not as a rule the same evil consequences to the children as the marriage of defectives." It would appear to be accepted by authority that it is very doubtful whether the total abolition of propagation by defectives would produce any considerable effect on the prevalence of mental deficiency. In this report similar conclusions are arrived at purely from the point of view of Catholic philosophy.

The report is extremely well brought out both in manner and matter, and is beautifully illustrated; it is unfortunate, however, that among the few authors quoted, the name and reference of one of them are wrong.

Part IV.—Notes and News.

THE ROYAL MEDICO-PSYCHOLOGICAL ASSOCIATION.

Quarterly Meeting.

The usual Quarterly Meeting of the Association was held on Thursday, February 16, 1928, at the City Mental Hospital, Fishponds, Bristol (by the courtesy of Dr. E. Barton White and the Visiting Committee), under the presidency of Dr. Hamilton Marr, F.R.F.P.S.Glasg.

On the previous day the Parliamentary and Educational Committees met, and a Special Meeting of the Council, called to decide how best to carry out the resolution of the Association dated November 17, 1927 (London), *re* the State Registration of Mental Nurses, was held in the Anatomy Lecture Theatre of the University by kind permission of the Dean of the Medical School, Prof. Edward Fawcett, M.D., F.R.S.

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The General Meeting.

The Minutes.

The minutes of the previous meeting, having already appeared in the Journal, were taken as read and approved and signed by the President.

The Retirement of Sir Frederick Willis, *K.B.E.*, *C.B.*, from the Board of Control.

Dr. J. G. Soutar said: You have asked me, Sir, to give an opportunity to the meeting of expressing to Sir Frederick Willis our good wishes on his retirement from the important post which he has occupied as Chairman of the Board of Control. I do not think we ought to allow this occasion to pass without conveying to him our very high appreciation of the excellent work he has done in that position. We all are aware how very much influence the Chairman of such a Board can exert, and how he imparts to the other members of the Board the tone and spirit which characterize very largely its work. We all know, from our experience of the Board of Control, how valuable and helpful that influence has been to us in our own work. Not only has it been helpful to us in our individual capacities, but it has helped us in the great purpose we all have in view, namely, the amelioration of the lot of the patients to whom we minister. We have had, on many occasions during what has been a very difficult time these last few years, the advantage of Sir Frederick Willis's personal advice given at conferences and at Parliamentary Committee meetings of our Association, when such matters as lunacy legislation have been considered. We have always found him most approachable, and very ready to impart his experience and advice in consulting with us. He has never set himself to dictate to us, but he has willingly brought to bear his large experience and his astute judgment on the consideration of the matters with which we have had to deal. I think this is an occasion when we might very well ask our Secretary to send a letter to Sir Frederick Willis, expressing our very high appreciation of the fine work he has done in the important position he has held, and the hope that he will have many years to enjoy the retirement he has so well earned. I move that such a letter be sent.

Col. J. R. Lord: In seconding this motion, I feel there is very little that can be added to the eloquent remarks which have fallen from the lips of our senior past-president here, Dr. Soutar. If anything might be added, it is that Sir Frederick Willis proved to be the right man in the right place at the right moment. He assumed his position at a time when it was really one of great difficulty, when the Board of Control was, in some respects, being merged into the general administration of the Ministry of Health, and well did he guide the ship during that anxious time. I would remind you, also, that he is an Honorary Member of this Association. Both these are, I think, additional reasons for sending him the expressions of respect and gratitude which Dr. Soutar has proposed.

The motion was carried by acclamation.

Obituary.

The President said it was with regret he had to report the names of four members who had died.

The first was that of Dr. Frederick William Apthorp, of Burgess Hill, Sussex, who joined the Association in 1912, and died in March, 1927. He was Medical Officer to the Uckfield Union. Dr. Apthorp had a splendid war record in South Africa.

The next was Dr. Henry Marcus Eustace, who was Medical Superintendent of Hampstead and Highfield Mental Hospital, Glasnevin, Dublin. He joined the Association in 1894. His death took place unexpectedly on December 21 last. He was a most popular, highly respected and influential member of the Association, and will be much missed, especially by the Irish Division.

The next was Dr. William Brittain Morton, who joined the Association in 1896, and died on January 9. Dr. Morton was Medical Superintendent of Wonford House, Exeter, and was formerly Assistant Medical Officer of the Lancaster County Mental Hospital. He was a most conscientious physician and able administrator.

The last name was that of Dr. Reginald Wickham Prentice, of Ringwood, Hants, who joined the Association in 1908. His death took place on January 17.

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Dr. D. F. RAMBAUT said that Dr. Eustace and he were boys at school together, and students of the same College. The deceased member was a most charming friend. He was head of the third generation of superintendents of that delightful mental hospital, Hampstead and Highfield, Glasnevin, situated just outside Dublin. The speaker recalled the delightful view there was of the mountains of co. Wicklow. Eustace's grandfather was one of the pioneers of the humane treatment of the insane in Ireland. For nearly thirty years Dr. Eustace was head of the institution, and was famous for his tact, his discrimination and his justice. He was a fine administrator, and took a keen interest in the scientific work of the Association, contributing articles to the *Journal of Mental Science*, particularly on paranoia and dementia præcox. His death would be a great loss to psychiatry in Ireland, as well as to many old friends there and elsewhere.

The meeting approved of sending letters of condolences.

Members stood in silent sympathy.

THE REPORT OF THE COUNCIL.

The PRESIDENT said he wished to refer to several matters of importance which had been before the Council.

Report of the Departmental Committee on the Superannuation of Local Government Employees (Asylums Officers).

The general conclusion arrived at in regard to this report was that the best course the Association could follow was to obtain amendment of the Asylums Officers' Superannuation Act, 1909. There was to be a further conference on the subject with the Mental Hospitals Association, the Clerks' and Stewards' Association and the National Asylum Workers' Union.

The Mott Memorial Fund.

With regard to the Mott Memorial Book, it was a pleasure to him to state that up to the present 72 had subscribed.

An Advisory Committee to the Educational Committee.

To advise the Educational Committee on the Training and Examination of Mental and Mental Deficiency Nurses, it had been decided to appoint a Committee composed of a matron, assistant matron, or sister tutor holding the *Royal Medico-Psychological Association's Certificate* elected by each division with the officers of the Committee as *ex-officio* members to meet some time before May, 1929. If successful, the Committee might become a permanent part of the Association's machinery.

The Mental Nursing Advisory Committee.

Much thought had been given to the constitution of the Mental Nursing Advisory Committee to the General Nursing Councils, which it was decided at the Quarterly Meeting held at Macclesfield last February, and confirmed at the Annual Meeting at Edinburgh, should be elected each year at the Annual General Meeting of the Association.

In order to carry this out the Council had approved the following resolution :

(*a*) That the Scottish and Irish Divisions each submit the names of representatives for nomination to the Nominations Committee at the May Quarterly Meetings as follows : Scottish Division, five names ; Irish Division, five names in respect of each of the two Irish Nursing Councils.

(*b*) That, in respect of the General Nursing Council for England and Wales, each English Division should submit the name of one representative for nomination, and that the two other representatives nominated should be the Chairman of the Educational Committee and the General Secretary.

(*c*) That a member of each group of representatives should be an *ex-officio* member of one or more of the other groups.

(*d*) That one representative at least of each group should be a member of the Council. (Motion by Lt.-Col. J. R. Lord.)

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The State Registration of Mental Nurses.

At the Special Meeting of the Council held yesterday the resolution on this matter passed at the Quarterly Meeting, November, 1927 (London), together with the answers to the questionnaire, which had since been sent to all recognized training schools, was referred to the Mental Nursing Advisory Committee for consideration and report to the May Quarterly Meeting. In the meantime, the General Secretary had been requested to send a copy of the resolution to the General Nursing Councils.

Election of New Members.

The following were unanimously elected ordinary members of the Association by ballot :

Silverston, Joseph Denzil, M.B., B.S.Durh., Deputy Medical Superintendent, County Mental Hospital, Lancaster.
Proposed by Drs. A. R. Grant, S. R. Tattersall and C. J. Thomas.

Fraser, William, B.Sc., M.B., Ch.B., D.P.H., Deputy Medical Superintendent, North Riding Mental Hospital, York.
Proposed by Drs. J. Ivison Russell, J. Shaw Bolton and M. J. McGrath.

Main, Dorothy Mary, M.B., Ch.B.Glasg., Assistant Medical Officer, City Mental Hospital, Willerley, Hull ; previously House Surgeon, Royal Infirmary, Glasgow ; Hull City Mental Hospital, Willerley, near Hull.
Proposed by Drs. J. S. Anderson, D. H. Cameron and J. B. Tighe.

Sykes, Kathleen Annie Harvey, M.D., B.S.Lond., M.B., Ch.B.Liverp., Assistant Medical Officer, Rubery Hill Mental Hospital, Northfield, Birmingham.
Proposed by Drs. T. C. Graves, J. M. MacKenzie and C. W. Forsyth.

Stocks, Jane W., M.B., Ch.B.Glasg., Resident Medical Officer, Hollymoor Mental Hospital, Northfield, Birmingham.
Proposed by Drs. T. C. Graves, J. M. MacKenzie and Elizabeth T. Selkirk.

Harris, Noel Gordon, M.B., B.S., M.R.C.S., L.R.C.P.Lond., D.P.M., Assistant Medical Officer, Springfield Mental Hospital, near Tooting, London, S.W. 17.
Proposed by Drs. R. Worth, G. Warwick Smith and G. W. Shore.

Cameron, Viola Cameron, M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, Springfield Mental Hospital, Annexe, Kingston Road, New Malden, Surrey.
Proposed by Drs. R. Worth, G. Warwick Smith and G. W. Shore.

Sinclair, Arthur Crawford, M.D., D.P.M., Assistant Medical Officer, Brentwood Mental Hospital, Brentwood, Essex.
Proposed by Drs. H. J. L. Haynes, W. Gordon Masefield and T. D. Power.

Burke, Noel Hawley Michael, M.R.C.S., L.R.C.P.Lond., D.P.M., D.M.R.&E.Camb., Neurological Specialist, Ministry of Pensions : 183, Elm Park Mansions, S.W. 10.
Proposed by Drs. G. W. B. James, R. Worth and Reginald J. Stilwell.

Paper.

[Lantern demonstration.]

"Some Points in the Histology of the Globus Pallidus," by Dr. E. Barton White (*vide* p. 247.)

Discussion.

Prof. E. Fawcett, in responding to the invitation to speak, said he feared he could not throw any light on this question. But it was one of great interest to him, especially from the point of view of pathological investigation. This deposition of iron in these cases was a new question. The fact that the globus pallidus was affected was, naturally, of interest to the anatomist and the morphologist, because all the later work showed conclusively that the globus pallidus was one of the oldest parts of the encephalon ; under that term he was alluding to the inner segments of the corpus striatum. Why this particular part of the globus should have its vessels affected in this way he had no notion ; possibly Dr. Hadfield's suggestion that it might be degenerative was a sound one. Other parts of the

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brain in a degenerate condition showed at any rate pigmentation. He did not know whether this pigmentation was related to the iron content.

He wished to ask a question. Dr. Barton White mentioned the vascular supply of the corpus striatum, and the speaker was not sure of the source of that gentleman's information.

Dr. BARTON WHITE (interposing): Prof. Cunningham.

Prof. FAWCETT (continuing) suggested that Dr. Barton White should continue his investigations in the light of recent work done on this vascular supply, particularly by Shellshear, who at present was in Hong Kong. That work on the vascular supply of the corpus striatum might throw new light on this important subject. Shellshear's results so far had been published in the *Journal of Anatomy* about four years ago.

It was a great pleasure to him to see that this kind of work could be, and was being done, in the laboratory of the Bristol Mental Hospital. As a friend of the late Superintendent twenty or more years ago, he had a little experience in the laboratory here, when work was done under very difficult conditions. In those days one had to make the best one could of a bad job. It was a real pleasure to him not only to see such a laboratory as the hospital possessed now, but also to have evidence—as was produced in Dr. White's paper—of good use being made of it.

Col. J. R. LORD said that the basal ganglia, to psychiatrists, would ever be a region of great interest, particularly in view of the fact that they were the possible central seat of the mechanism which had to do with the emotions, especially those strong primitive emotions associated with the mass reflexes so ably described by Rivers, Head and others. It was also interesting because many of the functions of these basal ganglia had been transferred to the newer cerebral structure, the neopallium of the cortex, especially its infra-granular layers. It followed that any change in the basal ganglia was worthy of very close study. It was not known to what extent the cerebral cortex had taken over the function of the older cortex or how much had been still left. The presence of iron in the pallida in such a proportion in both sane and insane people was of itself a very striking thing. Dr. Brander, of Bexley, was working on the presence of iron in cases of general paralysis, and had discovered that iron was present in very great quantities around the blood-vessels of the brain. He believed Dr. White had also carried out similar investigations in cases of general paralysis, but had not found this to be so.

Arising out of the question as to how much the basal ganglia were now associated with the emotions, it might be that the presence of this iron was an indication of loss of function, and that this portion of the striate body, the pallida, was a dying structure, and one which, in course of time, would become a mere vestige of the phylogenic past. The degeneration of organs, which occurred *pari passu* with loss of function, did not follow a steady course. It was found, for instance, that the appendix, a decaying structure, was very much more developed in one person than in another; and in the same way it might be so with the iron pigmentation of the pallida; it might merely indicate that in a number of people the primitive functions of the basal ganglia had been taken over more extensively by the cerebral cortex than in others whose pallida showed no such pigmentation.

He cordially agreed with Prof. Fawcett's remarks on the good work which was being done in this institution.

Dr. G. E. PEACHELL said he would be interested to know if Dr. Barton White had had an opportunity of examining the brain of a patient dying from pernicious anæmia, and if so, whether iron was found in that brain; also whether there was any analogy between this reaction found in the globus pallidus with the iron stain which was found in the pigmentation of the brain after hæmorrhage in certain conditions.

Dr. BARTON WHITE, in reply, said, in answer to Col. Lord's remark concerning general paralysis, that in his series there were four cases of general paralysis, and in two of them there was distinctly no iron present in deposit.

Dr. HADFIELD, in reply, said he and his colleagues had not been able to examine many cases of pernicious anæmia, but he pointed out that in pernicious anæmia the pigment was deposited or taken out of the blood by a phagocyte. In the cases they had examined there was no reason to suppose there was any excess of iron in the circulating blood. Also there was no excess of iron on analysis in one series

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as opposed to the other, *i.e.*, in the pathological series as opposed to the normal ones. Personally he did not think that this deposition of iron in the globus pallidus had anything to do with increased hæmolysis in the blood-forming organs or in the blood. The deposit took place apart from any phagocytic cell action; it was not carried to the blood-vessel by phagocytic cells, which was the universal rule in pernicious anæmia. He thought one could eliminate hæmorrhage as being the cause of pigmentation or of this change in the globus pallidus, as there was no sign of any pathological lesion in most of these cases. This change was not due to any pathological change in the tissue with which one was familiar. It was, he believed, a retrogressive—almost a physiological—change which took place at some time in the later half of life. He did not think it could be correlated with pernicious anæmia on the one hand, or with old hæmorrhage on the other.

Paper.

"Mental Disorders in Cardiac Disease," by Dr. Carey Coombs (*vide* p. 250).

Discussion.

The President said Dr. Carey Coombs had interested all his hearers in the analysis he had given. He, the speaker, thought there would be general agreement that heart disease, *per se*, seldom caused mental disorder, and any mental disorder following heart disease could usually be ascribed not to the heart conditions but to the conditions which brought about the diseased state—in other words, the auto-toxic or microbic poisons in the blood. Instead of functional heart conditions affecting the mind, it was usually the mind which caused the functional condition; that was indisputably so in the cases of shell-shock during the war. The heart condition came on after mental exhaustion as a disorder of the sympathetic nervous system.

Dr. Donald Ross wished to take the opportunity of expressing the great pleasure with which he saw Dr. Carey Coombs. It was his, the speaker's, good fortune to be sent out to France to a hospital to which Dr. Carey Coombs was attached, and from that gentleman he met with the most extraordinary kindness. He had derived great pleasure from hearing his paper.

Col. J. R. Lord said he, like all others present, had been extremely interested in the paper which had just been read. He agreed with the President, and all present would agree, that the mind had a great influence on the heart's action. There was not now time, however, to discuss at length that part of the subject. He reminded Dr. Carey Coombs that the heart's action was much affected in the psychoneuroses and in the neuroses. But it might be that the psychoses were so much associated with toxæmias of all kinds that it was difficult in any one case to decide whether a heart condition, if present, was due to the mental state, or to the accompanying toxæmia. Recently Dr. Hamburger had recorded in the *Medical Clinics of North America* five cases of the kind which would have interested the author of this paper. They were all cases of acute mental confusion, with a marked loss or diminution of compensation of a damaged heart. All the patients were over 45 years of age, and had advanced arterio-sclerosis. All were necessarily taking drugs such as digitalis, belladonna, large doses of alcohol, etc.; and it was quite impossible for the psychiatrists or physicians in charge of the cases to say whether the mental confusion was due to the drugs or a toxæmia or to the condition of the heart.

Dr. Carey Coombs had mentioned the Goulstonian Lectures for 1927, and that led the speaker to say that every member could find very much enlightenment on this subject from Sir Henry Head's Goulstonian Lectures, delivered in 1901 (*vide Brain*, August, 1901). Head very carefully recorded the absence or presence of mental symptoms, especially hallucinations, in no fewer than 154 cases of heart and respiratory disease. Those presenting mental symptoms without exception suffered from reflected visceral pains. Head put forward the hypothesis that these reflected pains were due to the activity of the autonomic nervous system—the oldest of the nervous mechanisms, which presided over the visceral organs—and were associated with animal functions and mass reflexes. The newer cortical system had to do with human activities and discrimination. Afferent impulses from the former in normal conditions of health were not allowed to enter consciousness. The reflected pain, however, brought them into consciousness,

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resulting in a depressed feeling tone, with hallucinations of hearing. There was the corresponding mechanism in the head, a branch of the fifth nerve, having segmental characters practically corresponding to the sympathetic system in the thorax and abdomen, which brought about reflected pain in the scalp, and with it there invariably occurred hallucinations.

In the old days this psycho-physical condition was covered by the term "sympathetic insanity"—a term which had now gone out of use. Sympathetic insanity was believed in by Homer, Aristophanes, Hippocrates, Aretius, Galen, and by all the Greek, Latin and Arabian physicians and their successors down to fairly recent times. It was Loiseau, in a paper before the Medico-Psychological Society of Paris in 1856, who gave rise to the teaching that heart disease was associated with delusions of grandeur and hallucinations, and aortic disease with mania and mitral disease with melancholia. That Society discussed the subject for two years, but came to no conclusion.

Col. Lord concluded by saying that Dr. Carey Coombs's paper was a valuable contribution to clinical psychiatry, and he was glad to have had the opportunity of hearing it and repeated that this no doubt was the feeling of the meeting.

Dr. CAREY COOMBS remarked that he had nothing to say in reply, except to thank all present for the patience with which they had listened to his paper, and express his appreciation of Col. Lord's kind remarks.

A resolution of thanks to both readers was carried, on the motion of the President.

THE LUNCHEON.

Before the General Meeting members were most hospitably entertained to luncheon at the Hospital by kind invitation of the Visiting Committee.

The guests at the luncheon were: Prof. Edward Fawcett, M.D., F.R.S., Professor of Anatomy and Dean of the Medical Faculty, Bristol University; Carey Coombs, M.D., F.R.C.P., Dean of Hon. Staff, Bristol General Hospital, Lecturer in Medicine, Bristol University, Consulting Physician, Bristol Mental Hospital; Geoffrey Hadfield, M.D., M.R.C.P., Pathologist, Bristol General Hospital and Bristol Mental Hospital, Lecturer in Pathology, Bristol University; E. G. Francis, M.A., Registrar, Bristol University; J. Lacy Firth, M.D., M.S., F.R.C.S., Surgeon, Bristol General Hospital, Consulting Surgeon, Bristol Mental Hospital; D. C. Rayner, F.R.C.S., Director in Obstetrics, Bristol University, Gynæcologist, Bristol General Hospital, Consulting Gynæcologist, Bristol Mental Hospital; Cyril Walker, M.B., F.R.C.S., Lecturer, Ophthalmic Surgery, Bristol University, Surgeon, Bristol General Hospital, Consulting Ophthalmic Surgeon, Bristol Mental Hospital; L. E. Claremont, M.R.C.S., L.R.C.P., L.D.S., Hon. Dental Surgeon, Bristol General Hospital, Lecturer in Dental Surgery, Bristol University, Dental Surgeon, Bristol Mental Hospital.

The Chair was taken by Mr. JOHN CURLE, J.P., the Lord Mayor of Bristol, and he warmly welcomed the guests on behalf of the Chairman of the Visiting Committee of the Bristol Mental Hospital, who was unavoidably prevented from being present. He said that Bristol Mental Hospital, like other institutions of the kind, was very much overcrowded, but it was now looking forward to developments which would result in some better provision for patients than visitors saw on this occasion.

Dr. HAMILTON MARR (the President), in expressing the thanks of the Association, said that whenever he visited a mental hospital he was reminded of a story of the war. At a court-martial on a certain captain the medical officer was asked if the captain was drunk, and he replied, "No, he was not drunk." Then he was asked whether he was sober, and he replied, "No." Then the Judge-advocate said, "Do you know the King's Regulations? Then you must be aware that a man must be either drunk or sober." The answer of the medical officer was—"Captain So-and-So's condition did not conform to the King's Regulations!" The mental hospitals, added Dr. Marr, did not always conform to the strict letter of the lunacy law; all of them in some way broke through the legal walls within which they were supposed to restrict their activity, which was only another way of saying that every mental hospital, rightly run, was not a rigid, inelastic thing, but a living thing, which was bound, as a living thing, to develop. He knew quite well that the Committee responsible for the Bristol Mental Hospital interpreted its functions in that liberal spirit, that it was alive to the very human needs of the hundreds of patients under its care, and would do all it possibly could to bring the care and

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healing of the mentally ill into the closest approximation to the care and healing of the physically ill. He proposed the toast of the health of the Visiting Committee and staff, coupled with the name of the Medical Superintendent, Dr. Barton White.

Dr. BARTON WHITE, in response, said he had to read a paper within a few minutes, and would now simply thank Dr. Marr for all he had said, and members for the heartiness with which they had drunk the toast.

THE DINNER.

Members and a number of distinguished guests dined together on the evening of Wednesday, February 15, at the Royal Hotel, Bristol, Dr. Hamilton Marr presiding.

The guests were: F. E. Metcalfe, Esq., Alderman and Chairman of the Mental Hospital; Prof. Edward Fawcett, M.D., F.R.S.; Prof. A. J. Nixon, *C.M.G.*, M.D., F.R.C.P., Professor of Medicine, Bristol University, Dean of Medical School, Royal Infirmary; Carey Coombs, M.D., F.R.C.P.; Patrick Watson-Williams, M.D., Consulting Surgeon for Diseases of the Ear, Nose and Throat, Bristol Mental Hospital; Geoffrey Hadfield, M.D., F.R.C.P.

At the appropriate moment the usual loyal toasts were honoured. The PRESIDENT proposed the health and prosperity of the Bristol Mental Hospital, coupling it with the name of Mr. F. E. Metcalfe, who responded, and in return toasted the Association. Dr. C. HUBERT BOND replied for the Association. Prof. G. M. ROBERTSON proposed the health of the University of Bristol, coupling it with the names of the Dean of the Faculty of Medicine and Professor Nixon.

VISIT TO THE UNIVERSITY.

The members visited the imposing new buildings of the University in the morning of Thursday, February 16, and were shown round by Mr. E. G. Francis, M.A., the Registrar; an interesting account of many of the architectural features being given by Prof. Fawcett.

These buildings were commenced before the war and were opened by the King in June, 1925. There is a lofty Entrance Hall with a double flight of stairs, its roof consisting of fan-vaulting in stone, like the well-known examples of mediæval work in Gloucester Cathedral and elsewhere. The Great Hall of the University, which seats over one thousand people, is beautifully panelled and has a hammer-beam roof built of English oak.

Amongst other rooms visited were the Reception Room, the Council Chamber and the Library, and all of these were much admired for their beautiful proportions and for the excellence of the craftsmen's work in wood and stone.

DIVISIONAL CLINICAL MEETINGS.

City Mental Hospital, Mapperley Hill, Nottingham.

The first Clinical Meeting of the Nottingham Clinical Area Group, under the auspices of the Association in the Northern and Midland Division, was held at the above hospital on January 27, 1928, at 3 p.m.

Present: Ten members and one visitor.

Dr. G. L. BRUNTON, who presided, gave a demonstration upon chronic encephalitis in the Female Infirmary Ward.

The main features of the disease were briefly outlined, the difficulties of custodial care and the need for medical officers to explore every method of treatment were pointed out, and seven typical cases were demonstrated. A girl of 14 years showed an important permanent neurological sign in that she had an ophthalmoplegia interna in which the pupils were unequal and inactive to light and accommodation. The discs were of good colour.

Prestwich Mental Hospital, Manchester.

A Divisional Clinical Meeting (Inaugural Meeting, Lancashire Area) was held at the above hospital on February 1, 1928. Present: 16 members and 10 non-members. Dr. David Blair presided.

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(1) Mr. GEOFFREY JEFFERSON, M.S., F.R.C.S., Hon. Neurological Surgeon to the Manchester Royal Infirmary, read a paper on his "Operations for Cerebral Tumours."

(2) "A Case of Intracranial Tumour," by Dr. C. R. NUNAN. [A *post-mortem* on this case had just been held, and Dr. Nunan was thus able to demonstrate the tumour *in situ*.]

The following are the notes, clinical and *post-mortem*, of the case:

The patient was a man who died at the age of 58 years. Ever since admission to the hospital in 1912 he suffered from what appeared to be true epileptic convulsions. These convulsions averaged six a year until the fortnight preceding his death, when they increased in frequency. He had 150 convulsions during this fortnight. At the onset of a seizure his mouth was drawn to the right side and he would extend his right arm. Between fits the patient was acutely confused, stuporose, demented, disinterested and disorientated in time and place, and his replies to the simplest questions were irrelevant. His speech was of the aphasic type. The sight of both eyes was failing for several months, but there was no squint; his gaze was fixed, and there was paresis of his right leg. It is possible he had some perversion of his sense of taste, as he would chew paper and firmly assert he was chewing tobacco. Owing to his mental condition it was not possible to ascertain the condition of his sense of smell, nor to confirm one's suspicions that he suffered from headache—he was wont to hold his hand to his forehead as one might do when suffering from frontal headache.

In 1919 he was queried as a case of general paralysis, but was never confirmed as such.

At the *post-mortem* a tumour the size of a tangerine was found attached to the base of the skull, near the left optic foramen and under and quite independent of the left frontal lobe. This tumour was an endothelioma.

(3) Dr. E. F. REEVE, Lecturer on Mental Diseases, University of Liverpool, and Dr. G. A. WATSON, Pathologist to the Lancashire Mental Hospitals Board, introduced a discussion on "The Diagnosis of General Paralysis."

Dr. Watson said: Having been asked to give a brief account of the methods employed towards this end at the Rainhill Mental Hospital, my remarks will be confined to this object.

As there is a large amount of work to get through with only a small laboratory staff, we have been compelled after trial of many methods to limit ourselves to those which we have found to be the most reliable, and, as far as possible, to the simplest.

1. *The diagnosis of syphilis—somatic and neuro-.*—Reliance is now placed almost entirely on the Dreyer-Ward sigma reaction, which was tested for a time against the Wassermann of an independent and skilled observer. The chief advantages of the sigma reaction over the Wassermann are: (i) That it is simpler—only two reagents are employed instead of five, and the hæmolytic system is eliminated; (ii) the reaction is "standard," is more definitely quantitative, and comparative results can be obtained by independent workers. The Wassermann is only done (by an independent observer) as a confirmation test in exceptional cases.

2. *The diagnosis of the form of neuro-syphilis from examination of the cerebro-spinal fluid.*—(i) Foam: quantity and persistence. (ii) Globulin: the Ross-Jones test only. (iii) The Boltz test: found to be almost, but not quite, invariably a test for globulin only. (iv) The colloidal gold (Lange) reaction. Other tests, such as the benzoin, gum mastic and gamboge reactions have, after trial against the colloidal gold reaction, been discarded. We have no strong objection to the benzoin test, although it occasionally gave us some anomalous results. The colloidal gold reaction has, in our experience, been found to be the *most reliable* and undoubtedly the *most delicate* of all the reactions tried. In the gold test the chief difficulties lie in the preparation and control of colloid. It requires experience, and also, for some unexplained reason, a certain amount of what can best be described as "knack." The usual text-book descriptions of the method of preparation do not always and entirely avail. Reliance is not placed on any fresh preparation until it has been tried against fluids from clinically typical cases of general paralysis and from obviously negative cases. We satisfy ourselves that a new preparation is sufficiently but not unduly "protected." Such can be successfully used for many months.

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When *all* the above-mentioned tests are positive a reliable laboratory diagnosis of general paralysis can be given and other tests are unnecessary. The laboratory diagnosis, in every case, has been arrived at independently and the clinical staff is in entire agreement with it.

As is well known, the gold sol test may give a paretic curve at times in cases other than general paralysis—especially disseminated sclerosis and some cases of cerebral tumour, but the other tests, and of course clinical examination, assist in excluding these.

The *cell-count* has been abandoned, except in special cases, for example, suspected cerebral tumour or meningitis. As a routine procedure in the laboratory diagnosis of general paralysis it does not compensate for the time and labour involved in the examination of a large number of specimens.

Prolonged trial has led us to believe that it is better to rely upon a limited number of tests, each carried out with meticulous care, than to attempt a greater number of such tests, some of which might, on occasion, have to be hurriedly completed.

3. *Post-mortem*.—(i) The Spatz test: This up to the present time has been found to be reliable in the differential diagnosis of general paralysis from other types of cerebral disease usually met with in mental hospital practice.

(ii) The final test of course is macro- and particularly microscopical examination of the brain in every case in which an autopsy can be obtained. It is this final test which has satisfied us as to the reliability of the tests carried out during life. One of our objects all along has been to find a flaw in the latter tests—properly carried out—and in this we have, so far, failed.

Dr. Reeve said: It has been urged that an endeavour should be made to establish the diagnosis before the cortical cells had undergone degeneration. To succeed in prolonging life when the patient had already attained the stage of dementia is frankly not worth while.

Syphilitic changes in the cerebro-spinal fluid are already present before any physical signs of nervous disease have developed.

The blood, at least, should be examined in every new admission into mental hospitals, and a positive reaction should be followed by an investigation of the cerebro-spinal fluid. Of 305 consecutive admissions into Rainhill Mental Hospital in which both were examined, the blood in 23·6% and the cerebro-spinal fluid in 11·7% gave a positive reaction.

A case occurs here and there where the blood is negative, although the cerebro-spinal fluid is strongly positive. This negative reaction of the blood is in all probability due to active anti-syphilitic treatment in an early stage of syphilitic infection, but after the spirochætal invasion of the meninges. An examination of the Rainhill records shows that clinical errors in diagnosis were apt to be made in cases where general paralysis commences at an advanced age, also when it occurs in unusually young subjects. Especially difficult is the diagnosis of those acute, fulminating cases which die within a few months of admission. The difficulty of making a differential diagnosis between the meningo-vascular type of cerebral syphilis and general paralysis was notable. In six cases which during recent years, no differential clinical diagnosis could be made.

In a recent death from cerebral syphilis in a male patient at Rainhill, who exhibited all the mental characteristics commonly associated with the exalted type of general paralysis, the brain was shown and Dr. Watson demonstrated its characteristic features.

Dr. H. T. KIRKLAND expressed his appreciation of the papers by Dr. Reeve and Dr. Watson.

He contrasted the high incidence-rate of syphilis and neuro-syphilis among new admissions at Rainhill with that at Preston, and referred to the dependence on laboratory methods for the diagnosis of early cases of general paralysis of the insane presenting few of the classical signs and symptoms. He pointed out the need for pursuing and trying out new lines of empirical treatment, in the hope of finding some sure method of arresting the paretic course even in the more chronic forms.

Dr. F. H. STEWART outlined the routine adopted at Cheddleton Mental Hospital in cases suspected of general paresis, which differed from that at Rainhill in the use of colloid benzoin instead of colloid gold, and of the cell-count in every case.

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The colloid benzoin test had failed in one case only, that of a melancholic who, twelve months later, gave a positive colloid benzoin. At the second test, however, the clinical condition had changed to one of melancholic general paralysis. The benzoin test had the merit of simplicity. Referring to laboratory tests applied after treatment by malaria, Dr. Stewart said that the Wassermann of the cerebro-spinal fluid was sometimes less emphatically positive, but might show no change even in patients who were clinically cured. This seemed to agree with the observation that treatment by malaria was as effective alone as when combined with organic arsenic. The idea therefore arose whether general paresis might not be due to some second factor added to the syphilis.

(4) "A Case in which the Differential Diagnosis lay between Cerebral Tumour and General Paralysis," demonstrated by Dr. GEORGE S. WILSON, of Prestwich Mental Hospital.

Dr. Wilson said he had selected a case for demonstration on account of the discussions which had taken place that afternoon, one on cerebral tumour, and another on the serological tests in general paralysis.

The case was admitted as one of general paralysis, but owing to the negative results from *all* the serological tests, doubt arose as to the accuracy of the original diagnosis and the question of cerebral tumour. Briefly the history of the case was as follows:

From 1914 onwards the patient had shown signs of defective memory coupled with outbursts of temper, which became more frequent and severe. In 1916, roughly two years after the first mental symptoms, the patient was knocked down by a bull (he is a butcher), and was in bed for a few days, suffering from shock and bruises. He resumed his work. In 1918 he was knocked off a tramcar and again suffered from shock. His wife expressed the opinion that both accidents were due to his mental condition rather than that his mental condition was the result of these accidents. In 1920 his condition became such that he had to cease work. In 1923 he suffered from twitchings of the facial muscles, but this passed off. Since then until admission last September he had become weaker in body and mind, and had required assistance in all his movements.

He was a total abstainer, but had a specific history. His present age was 61. His reception order was as follows: "Great difficulty in comprehending the meaning of ordinary remarks or questions. Inability to say when he had food or what he had last; no idea of the significance of day or night or time or place. His wife stated that he had to be cared for as regards putting to bed, dressing, feeding, etc. He thinks that he is able to go long walks."

On admission he weighed 12 st. 10 lbs.; he was now 9 st. 1 lb. There was nothing to note particularly about his alimentary, respiratory and circulatory systems. His nervous system was as follows: Defective vision with pupils reacting very sluggishly to light. Rombergism very marked. Knee-jerks diminished. Babinski negative. Tongue tremor marked. No ankle clonus. Optic discs pale, but these could not be examined thoroughly owing to the restlessness of the patient. Periodic attacks of severe headache. Mentally he was simple and childish. Had an exaggerated sense of well-being and was disorientated for time and place. He could walk only with assistance, but maintained that he could walk several miles. His memory was very defective. At times his manner was overbearing, and he maintained that he was superior to everyone else. His habits became faulty. He had had several outbursts of screaming and violent temper. He would state that his present condition was due to bestiality. He had periods of restlessness, during which he would pick and play with his bed-clothes. He had stated that he contracted venereal disease in Edinburgh, but could not give any date. At times he seemed to be persecuted by someone, because he suddenly shouted out, "Don't do it; please don't do it."

His blood and cerebro-spinal fluid had been examined, with negative results, by the Wassermann, sigma, gold sol, Ross-Jones, Noguchi and Boltz tests.

His son, a married man about 30 years of age, who stated that he had never exposed himself to any infection, showed a positive Wassermann, but his wife's blood was negative.

The case clinically resembled general paralysis, but the blood and cerebro-spinal fluid did not give the usual positive reactions to the various tests for this condition. On the other hand there were two of the cardinal signs of cerebral tumour well marked, (i) optic neuritis, and (ii) severe headache, but no vomiting

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and no localizing signs. There had been progressive mental and physical deterioration, much more rapid during the past three months. On the assumption that the condition might be due to a gumma which need not give a positive Wassermann, gold sol, etc., and yet might give rise to optic neuritis and headache. Potassium iodide and liq. hydr. perchlor. were administered *t.d.s.*, but with little or no effect.

The case was extremely interesting yet difficult, but he believed that it was one of the few cases of general paralysis which do not give the usual serological reactions.*

(5) Dr. F. C. LOGAN and Dr. J. A. A. SANG, of Prestwich Mental Hospital, read a paper on "Volvulus" and demonstrated cases which had been operated upon for this condition (*vide* p. 259).

(6) "A Case of Actinomycosis treated by Iodine in Milk," demonstrated by Dr. GEOFFREY TALBOT, of Prestwich Mental Hospital.

Dr. Talbot said: This patient, admitted in 1923, developed a large fluctuating abscess in the right ilio-lumbar region about January 1926. This was aspirated, and found to contain the typical colonies of actinomyces.

The patient's history furnished the fact that she was formerly a cook to a Scottish country household. On one occasion she was skinning an ox-tongue and noticed that "it was very hard and had cancer." In all probability this was the origin of her infection by the mouth, but not until 1926 were any external signs of the disease apparent. The site of the primary growth has not been discovered, but the most likely is the cæcum or appendix, with secondary involvement of the liver.

The treatment consisted in administering mv doses of the weak tincture of iodine in milk thrice daily for several months, with short intervals of intermission.

The aspiration of the abscess was continued as long as necessary, and soon a very marked and continuous improvement was noticed. There has been no recurrence of the disease. The exhibition of the iodine in milk is apparently true colloidal therapy, and judging by the result in the present case is worthy of more extended trial in similar conditions.

A microscopical preparation from this case was shown.

Rubery Hill Mental Hospital, Birmingham.

A Divisional Clinical Meeting was held at the above hospital on Thursday, March 15, 1928, at 3 p.m.

Present: Drs. F. J. Stuart, Wm. Reid, E. D. Hayes, A. H. Firth, B. H. Shaw, H. Astley Cooper, K. K. Drury, K. Sykes, F. A. Pickworth, E. S. Selkirk, J. W. Stocks, J. M. MacKenzie and T. C. Graves. Dr. Graves in the chair.

Dr. MACKENZIE opened a discussion on "Non-Specific Protein Therapy by T.A.B. Vaccine in General Paralysis." Temperature charts from cases so treated were shown and compared with malarial charts. Three cases of general paralysis treated with T.A.B. and N.A.B. were demonstrated.

The advantages of T.A.B. pyrexia over malaria were described and the indications and contra-indications outlined.

A male case (non-syphilitic) was shown for diagnosis in which there was a history of neurasthenia, following service in the Great War, with periods of confusion, and a sense of unreality experienced, with statements made by the patient suggestive of epilepsy. A history of severe influenza in 1918 was obtained. Considerable improvement had followed drainage of infected accessory nasal sinuses.

The special treatment block of the new wards at Rubery Hill was inspected, where a demonstration was given of continuous colon irrigation by use of apparatus fitted to a specially constructed table.

City Mental Hospital, Humberstone, Leicester.

A Divisional Clinical Meeting was held at the above hospital on Tuesday, March 27, 1928, at 3 p.m.

There was an attendance of about 35—10 from mental hospitals and 25 of the general practitioners and consultants (including Mr. C. J. Bond) from Leicester.

* Subsequent to the date of this meeting the patient died (March 20, 1928), and *post mortem* the brain was typical of general paralysis.

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Dr. J. Francis Dixon, who presided, welcomed the visitors on behalf of the Visiting Committee, the Royal Medico-Psychological Association, and his colleagues, and outlined the purpose of these clinical meetings, *i.e.*, to stimulate interest and establish contact among assistant medical officers of convenient groups of mental hospitals, and to keep mental hospital practice in touch with the main current of general medicine.

Dr. T. Wishart Davidson gave a clinical demonstration of the results of the malaria treatment of general paralysis. The cases numbered 48, and were grouped as follows :

Deaths unassociated with malaria	12	= 25%.
Deaths from malaria	5	= 10·4%.
Unimproved	7	= 14·5%.
Slightly improved	5	= 10·4%.
Much improved	7	= 14·5%.
Discharged	12	= 25%.

An account of all the cases at present in the hospital and of 10 of the discharged patients was given, and the cases demonstrated.

At the close of the proceedings Dr. Davidson was heartily thanked and congratulated, and an interesting discussion took place.

Sunderland Mental Hospital, Ryhope.

The first Divisional Clinical Meeting of the Newcastle District was held at the above mental hospital on March 28, 1928.

Present: Drs. M. A. Archdale, F. Back, Thomas C. Barkas, Eric P. Boyle, Joseph Braithwaite, D. H. Cameron, G. R. East, Allan A. Macdonald, Finlay D. MacGilp, H. D. MacPhail and Geo. F. May. Dr. M. A. Archdale in the chair.

Dr. Back gave an account of his experience of malarial and tryparsamide treatments, both singly and combined, in cases of paretic dementia. He dealt with 96 cases at Sunderland and Sheffield. With the malarial treatment he thought we might expect at least 30% more and longer remissions than in cases not treated. Most of the cases, even if not fit to be discharged, became stationary, and seizures were particularly rare. Generally he found marked improvement in the serological conditions. The result was better the more rigors the individual was allowed to have—at least 12 or 14 rigors unless the blood-films, temperature and general condition made an earlier stop necessary. He did not think it made much difference whether the malarial infection was induced by mosquito or blood-transference, though some thought there was a greater tendency in the latter cases for the malaria to be abortive or self-cured within a short time.

Comparing the two treatments in the Sunderland Mental Hospital, of the 14 malaria cases in 1925, only one had been discharged, while of the 13 tryparsamide cases treated during the past two years 2 had been discharged and were doing well. In addition a man who did not appear to be doing satisfactorily after malarial treatment had been given tryparsamide, and was at home doing well.

The other malarial cases at Sunderland had only been infected this year.

Dr. Back showed a number of patients and charts illustrating his points.

Dr. Archdale said one reason why the Sunderland cases of 1925 had not shown as good results as usual was that they were nearly all advanced or of long duration. Until this year they had better results with tryparsamide, but a serious drawback to this drug was its great expense. Other disadvantages were the long duration of treatment required, and the time-absorbing nature of the technique in administering the drug. They had had no cases of nephritis, but one man died of pneumonia at the end of his malarial course.

Drs. MacPhail and Macdonald described similar treatments and results at the Newcastle Mental Hospital. Dr. MacPhail said they had had to cut short the malarial course of two cases on account of nephritis, and one man had died of pneumonia while convalescing from malaria. Dr. Macdonald said in his experience the serological results were equally good in the malarial and in the tryparsamide cases.

Dr. Barkas described 4 cases he had treated by induced malaria.

Dr. May asked whether any of the cases treated had been previously infected with malaria during the Great War.

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Dr. MacPhail said a man at Newcastle who had twice been inoculated without being infected was of this kind, and Dr. Archdale said none of the Sunderland cases had been previously infected.

A discussion then took place on the "Possible Interpretations of the Schedule of Forms of Mental Disorder issued by the Board of Control," the subject being introduced by Dr. Archdale. The discussion was confined mainly to the various ways in which schizophrenic cases might be classified under the schedule.

Dr. Archdale emphasized the point that many of the cases commonly called secondary dementia were really schizophrenic in type, and sometimes made most unexpected recoveries under various circumstances, including a severe illness or transfer to another mental hospital.

He also pointed out that many patients showed a mixture of reaction modes. Not only were organic cases often complicated by purely functional reactions which cleared up under suitable treatment, but functional cases occurred which in the course of a short time showed different reaction modes. Sometimes a case appeared for a time to be one of psycho-neurosis and later schizophrenia.

Another patient obviously schizophrenic might show much periodicity, and yet another obviously manic-depressive might have the manic or depressive phases complicated by stereotypies, affectations, mannerisms, hallucinations, delusions, etc., suggesting schizophrenia.

Dr. MacPhail emphasized the point that functional mental ailments were not comparable with ordinary bodily diseases, but were exaggerated reaction modes and inefficient adaptations.

Drs. East, May, Back and Braithwaite took part in the discussion, and the general conclusion was that though the official classification was unsatisfactory for cases which could not be proved to be organic, the time was not yet ripe for attempting to improve it.

Cheshire County Mental Hospital, Upton, Chester.

A Divisional Clinical Meeting was held at the above hospital on March 29, 1928, at 3 p.m.

Present: Fourteen medical men, including visitors. Dr. G. H. Grills presided.

Dr. Isabella A. Gillespie, Assistant Medical Officer at the hospital, read a paper on "Treatment of Post-Encephalitis." After discussing the prevalence and ætiology of the disease, she proceeded to describe its treatment by removal of septic foci, special feeding, ultra-violet therapy, liver treatment, diathermy, autogenous vaccines and induced malaria, especially the latter, which took up a considerable part of the paper.

Eighteen cases in all had been treated. The obvious resemblance between syphilis and general paralysis on the one hand and acute and chronic encephalitis on the other, and the case for malarial treatment were commented on. Twelve cases had improved after a course of induced malaria, and in five of these the improvement had been maintained; the others regressed to a varying extent.

Fourteen cases of post-encephalitis and several of general paralysis, illustrative of the effect of induced malaria on these two diseases, were shown by the medical staff.

Dr. Paul, of Chester, thought that drugs were sometimes of use when administered in the radical sense referred to in the paper, *e.g.*, if injected for encephalitis. He stated that he had had a typical Parkinsonian case into which he injected potassium permanganate intravenously, and that the patient improved enormously and was able to dance before leaving the hospital.

A discussion arose on the relative merits of drugs like potassium permanganate and urotropin when the virus was in the brain. Urotropin might be considered as the better drug. Ten-grain doses of urotropin thrice daily appeared in the cerebro-spinal fluid as formalin (1 in 25,000) and 1 in 40,000 formalin hindered putrefaction outside the body.

Dr. F. H. Healy, Assistant Medical Officer at the hospital, read a paper on "Menstruation in Relation to Mental Disorders," based upon the examination of 243 cases of menstrual age. The latter part of the paper is devoted to epilepsy, especially in relation to menstruation. These papers gave rise to interesting discussions, as did the cases demonstrated in the wards [Both papers will appear in the July issue of the Journal.]

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EDUCATIONAL NOTES.

The Maudsley Hospital (University of London), Denmark Hill, S.E. 5.—Lectures and Practical Courses of Instruction for a Diploma in Psychological Medicine. Course XII, 1928, Part II.

Eight lectures on the Psychoneuroses. By Bernard Hart, M.D., F.R.C.P., on Mondays at 3 and 4.30 p.m., commencing April 30, 1928.

Eight lectures on Morbid Psychology. By Edward Mapother, M.D., F.R.C.S., F.R.C.P., on Wednesdays at 2.30 and 4 p.m., commencing March 7, 1928.

Four lectures on the Pathology of Mental Diseases. By F. Golla, M.B., F.R.C.P.

Four demonstrations in Pathology of the Central Nervous System. By Charles Geary, on Fridays at 2.30 p.m., commencing May 4, 1928.

Three lectures on the Legal Relationships of Insanity and on Treatment. By C. Hubert Bond, D.Sc., M.D., F.R.C.P., on Fridays, May 4 and 18, and Tuesday, May 15, 1928, at 4.30 p.m.

Six lectures on the Practical Aspect of Mental Deficiency. By F. C. Shrubsall, M.D., F.R.C.P., on Tuesdays at 2.30 p.m., commencing March 6, 1928, omitting April 10.

Four lectures on Crime and Insanity. By W. Norwood East, M.D., M.R.C.P., on Tuesdays at 3 p.m., commencing May 1, 1928.

Three lectures on Therapeutics. By A. A. W. Petrie, M.D., F.R.C.S., M.R.C.P., D.P.M., on Tuesdays at 4 p.m., commencing March 20, 1928.

Six demonstrations in Clinical Psychiatry. By Edward Mapother, M.D., F.R.C.S., F.R.C.P., on Wednesdays at 2.30 p.m., commencing April 18, 1928.

Twelve Clinical Demonstrations in Neurology. Six by F. M. R. Walshe, D.Sc., M.D., F.R.C.P., on Thursdays in March, commencing March 8, 1928, and Wednesdays, April 4 and 11, 1928, at 2.30 p.m., at the National Hospital, Queen Square. Six by F. Golla, F.R.C.P., on Thursdays at 3 p.m., commencing April 19, 1928, at the Hospital for Paralysis and Epilepsy, Maida Vale.

Two lectures on Abnormalities of the Fundus Oculi. By R. Foster Moore, M.A., B.Ch., F.R.C.S., on Mondays, April 16 and 23, 1928, at 2.30 p.m.

Fees: For whole of Part II, £10 10s.

Inquiries as to lectures, fees, etc., should be addressed to "The Director of the Central Pathological Laboratory," Maudsley Hospital, Denmark Hill, S.E. 5.

The Tavistock Clinic for Functional Nervous Disorders, 51, Tavistock Square, W.C. 1.—A Short Course of Lectures on Functional Nervous Disorders for Practitioners and Students will be given at the Clinic, beginning May 14, 1928. At 4.45 p.m. J. R. Rees, M.D., on Psychotherapy (May 14, 15, 16). W. Langdon Brown, M.D., F.R.C.P., on the Endocrine System and the Psychoneuroses (May 17, 18, 21, 22). J. R. Rees, M.D., on Methods of Treatment (May 23, 24). John Freeman, M.D., on Toxæmia in Relation to Functional Disorder (May 25). At 5.45 p.m. H. Crichton-Miller, M.D., on Adaptation; Environment; Heredity (May 14). George Riddoch, M.D., F.R.C.P., on Differential Diagnosis of Post-Encephalitic and Functional Conditions (May 15). James Young, M.D., on Freud, Jung, Adler (May 16). H. Crichton-Miller, M.D., on Conflict and Repression; Emotional Development; Hysteria; Neurasthenia; Anxiety States; Dementia Præcox and Manic Depression; Insomnia (May 17, 18, 21, 22, 23, 24, 25). At 8.15 p.m. each evening an informal Seminar on Dream Interpretation will be conducted by Dr. Crichton-Miller. Fee for the Course: Medical practitioners, £2 2s.; medical students (*i.e.*, unqualified), 10s. 6d. Tickets for a single lecture at 5s. will be issued in so far as accommodation permits. Tickets for the course to be obtained in advance from the Hon. Lecture Secretary at the Clinic.

National Hospital, Queen Square, London, W.C. 1.—A Post-Graduate Course on Diseases of the Nervous System will be held at the above hospital from May 7 to June 29, 1928.

The General Course will consist of 32 Clinical Lectures and Demonstrations at 3.30 p.m. each weekday, except Wednesday and Saturday. Teaching in the Out-Patient Department on each weekday, except Saturday, at 2 p.m.; and seven Pathological Lectures and Demonstrations on Mondays at 12 noon. The Fees for this Course will be £5 5s.

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A course of eight lectures on the Anatomy and Physiology of the Nervous System will be arranged on Fridays at 12 noon if there are sufficient applicants. Fee £2 2s.

A course of twelve clinical demonstrations, chiefly on Methods of Examination of the Nervous System, will be given on Tuesdays and Fridays at 5 p.m. Fee £2 2s.

Tickets entitling to attend the Out-Patient Clinic only (£2 2s. for 3 months) may be obtained from the Secretary. A limited number of students can be enrolled as ward clerks. Fees: £5 5s. for 3 months; £7 7s. for 6 months; and £10 10s. perpetual ticket. Applications should be addressed to the Secretary, Medical School, National Hospital, Queen Square, London, W.C. 1.

Vienna.—Post-Graduate Course in Neurology and Psychiatry.

Special systematic classes will be held in English at the Neuropsychiatric Clinic of Prof. Wagner von Jauregg and the Neurological Institute of Prof. Marburg, Vienna University, Austria, under the auspices of the American Medical Association of Vienna, from June 1 to July 31, 1928.

The whole sphere of neurology and psychiatry and allied subjects (otiatry, ophthalmology, endocrinology, X-rays, brain surgery) will be covered.

The fee will be *Sch.* 214 (about £6 2s.) for each person, subscription to the American Medical Association of Vienna included. Applications accompanied by *Sch.* 50 (about 29s.) should be sent to Docent Dr. E. Spiegel, Vienna, I, Falkestrasse 3. Each applicant receives a card which gives the right to enter Austria without paying the Austrian visa. The class will be held if a minimum of 8 and a maximum of 15 apply. If the minimum is not reached the money will be returned.

Further information can be obtained from Docent Dr. E. Spiegel.

Intending applicants should communicate with Dr. A. Edward Evans, Hon. Secretary, Study Tour, etc., Sub-Committee, 3, Rotherwick Court, Golders Green, London, N.W. 11, who will put them in touch with one another for companionship during travelling and while resident in Vienna.

MEMORANDUM OF THE IRISH DIVISION OF THE ROYAL MEDICO-PSYCHOLOGICAL ASSOCIATION ON THE REPORT OF THE COMMISSION ON THE RELIEF OF THE SICK AND DESTITUTE POOR, INCLUDING THE INSANE POOR.

The Irish Division of the Royal Medico-Psychological Association notes with regret that the Report of the Commission on the Relief of the Sick and Destitute Poor, including the Insane Poor (dated 1927), does not make any recommendation for the establishment of a central authority to deal with the mental hospitals, or to make any provision for the scientific study and investigation of mental disease. It is the opinion of the Division that unless the interests of the insane are treated separate from those of the poor in general, the former are not likely to receive the care and attention to which such sufferers have become entitled by the common consent of modern civilization. Recommendation No. 454 on Form D with regard to the admission of patients would certainly be a great hardship on the patients and their friends without in any way safeguarding the interests of the patients or the public, as was pointed out by Lord Shaftesbury in his evidence before the Dillwyn Select Committee on July 17, 1877, which is as follows:

> "Just consider it this way," he said. "Supposing you called in the intervention of the magistrate, he must act either ministerially or judicially; if he acts ministerially, what earthly use is he? He merely signs his name to the documents . . . it is a mere ministerial act and it affords no assistance or security whatever; but supposing, on the other hand, he acts judicially and is called in to sit in judgment on the certificate, and then he signs his name at the foot of the document, and says it is good and sound, then see what he does. He exonerates the medical man from his great responsibility; he exonerates the man who signs the order; he exonerates the man who admits the patient into the asylum, because he has declared everything to be good and current; however bad it may be it is endorsed by

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the judicial man, who has been called in by Act of Parliament to sit in judgment on that certificate." "We should object," he says later, "to an inexperienced layman taking upon himself to reverse the decision of the medical men."

Anything that delays treatment lessens the prospect of recovery, and the intervention of a judicial authority would certainly result in delay, for people are very loth to confide in their lay neighbour, even if he be a justice, that a member of their family has become mentally affected.

The recommendation regarding the establishment of auxiliary asylums under non-medical management is one which the Division view with much apprehension, as it seems likely to lead to a lowering of the general standard of treatment of the insane. It cannot be denied that every important advance and improvement made in the care and treatment of the insane from the time of Pinel and Tuke in 1792 down to the present has been due to the untiring efforts of the medical profession, and there is a serious danger that these proposed new institutions under non-medical care will degenerate to the level of the workhouse standard.

Recommendations Nos. 474–5 regarding Committees of Management and the authority of the Resident Medical Officer seem rather contradictory, for in one it is stated that the latter should be the medium of management, while in the other it is suggested that the County Council might appoint what is practically a lay manager or commissioner, thus reverting to the system of management which was abandoned some eighty years ago, quite early in the course of the humanitarian movement in asylum care and treatment.

The Division notes with satisfaction that the Commission recognizes the necessity for having those entrusted with the care of the insane properly trained in their duties, and is of the opinion that this should extend to the staff of auxiliary asylums if established.

MENTAL DEFICIENCY ACT (ENGLAND AND WALES), 1927.

Copy of Circular Letter No. 702, issued by the Board of Control, dated February, 1928.

SIR,—I am directed by the Board of Control to draw the attention of the Local Authority to the provisions of the Mental Deficiency Act, 1927.

The object of the Act is to remove certain defects in the Mental Deficiency Act of 1913 (hereinafter referred to as "the principal Act") which experience has brought to light, and also to enlarge the powers, and to some extent the duties, of the Local Authority.

1. Section 1 of the Act substitutes new definitions for those which are contained in Section 1 of the principal Act. The new definitions avoid the use of the expression "from birth or from an early age," an expression which has given rise to many difficulties and differences of opinion. Mental defectiveness for the purposes of the Act is now defined as follows:

> "Mental defectiveness" means a condition of arrested or incomplete development of mind existing before the age of 18 years, whether arising from inherent causes or induced by disease or injury:

and this definition must be read into paragraphs (*a*), (*b*), (*c*) and (*d*) of Section 1 (1).

Cases of mental defect of any age may be dealt with under the Act if there is evidence to show that the defect existed before the age of 18.

Attention is specially drawn to the fact that the new definition expressly provides that "mental defectiveness" within the meaning of the Act may be due not only to inherent causes; it may have been induced by disease or injury. Cases of mental defect arising from *encephalitis lethargica*, epilepsy or other diseases are thus clearly brought within the Act. In the present state of our knowledge, institutions for defectives offer the most appropriate places so far provided for the care and training of certain post-encephalitic cases. In some areas the need for providing for such cases is urgent.

In connection with the definitions the Board desire to emphasize the fact that mental defect, within the meaning of the Act, may exist in persons of some—or even considerable—intellectual capacity. The criterion, except in the case of feeble-minded children, is whether the individual is so mentally defective that he requires care, supervision and control.

2. (i) A slight enlargement of the class of persons who are subject to be dealt with is made by including any patient with respect to whom a representation has

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been made to the Local Authority by his parent or guardian that he is in need of care or training which cannot be provided in his home. Prior to the new Act the Local Authority could only deal with such a case if it was "neglected, abandoned, or without visible means of support, or cruelly treated."

(ii) The other amendments which are made by this Section provide for notification by Education Authorities of defective children who are in need of any one of the three methods of help provided by the principal Act, namely, supervision or guardianship or institutional treatment.

3. Section 3 is a drafting amendment of Section 4 of the principal Act. The object of Section 4 of the principal Act is merely to set out the ways in which defectives may be placed under guardianship or sent to an institution, but the opening words of the Section seemed to negative the view that supervision is one of the methods of dealing with cases under the principal Act.

4. Section 4 amends Section 6 of the principal Act and provides that the consent of the parent or guardian may be dispensed with if, by reason of his being abroad, any attempt to obtain his consent would result in undue delay in dealing with a petition for an Order.

5. Section 5 relates to cases that have been dealt with under Section 8 of the principal Act. Under that Section the Court, if satisfied on medical evidence that a prisoner is a defective, is empowered, in lieu of passing sentence, to give a direction that a petition be presented to a judicial authority with a view to obtaining an Order that the defective be sent to an institution or placed under guardianship. Cases have arisen in which such direction has been given and it has been found impracticable to present a petition or the petition has been dismissed. The principal Act contained no provision for the continued detention of such a person in these circumstances until the case could be disposed of by the Court. The new Section provides the appropriate machinery for the purpose.

If a defendant in whose case a petition has been dismissed or has been found impracticable can be brought without delay before the Court which made the Order directing a Petition to be presented, this course should be followed, so that the Court may at once make such further Order as the Court may think fit for disposing of the case.

If, however, there will be an interval before the Court sits again, as for example may occur with Courts of Assize or Courts of Quarter Sessions, the new Section 5 legalizes the continued detention of the defendant during this interval, but it will be necessary to provide the Governor of the Prison, or the Superintendent of the place of detention, with documentary evidence showing that the provisions of Section 5 apply. For this purpose, if the Petition has been dismissed, the Mental Deficiency Authority should obtain from the Judicial Authority an Order or Certificate of Dismissal.

If the presentation of a Petition is found to be impracticable, a written statement to this effect should be drawn up and signed by a responsible officer of the Mental Deficiency Authority. The Order of Dismissal by the Judicial Authority or the signed statement of impracticability should be given to the Governor of the Prison or the Superintendent of the place of detention, together with the original Order of the Court directing the detention of the defendant pending the presentation of a Petition.

Detention under the new Section 5 is, of course, only a temporary measure pending a further adjudication by the Court which found the defendant guilty, and accordingly the prosecuting Authority, which will usually be the Police, or as regards children, the Education Authority, should be notified so that steps may be taken to bring the defendant before the Court again at the earliest opportunity.

6. Section 6 amends Section 11 of the principal Act, and provides that defectives, who are due for a special report and certificate by the medical officer of the institution and who happen to be absent from the institution on leave or otherwise, may be examined by a duly qualified medical practitioner residing in the locality where the defective is for the time being, instead of being brought back to the institution for examination.

7. Experience has shown the vital importance of providing training or occupation for defectives. This fact is already realized by many Local Authorities, but some doubt has existed as to the power to provide training or occupation for defectives under supervision. Section 7 removes this doubt, and amends Section 30 of the

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principal Act so as to impose on Local Authorities the duty of providing suitable training or occupation for defectives, whether under supervision or guardianship, or in certified institutions. In some instances defectives, who would otherwise need institutional treatment, may properly be dealt with by way of supervision or guardianship if suitable training or occupation is provided for them. In order to meet cases where there may be adequate reasons for not providing training or occupation for defectives under supervision, a proviso is included in the Act under which Local Authorities are relieved from the obligation if they satisfy the Board that the reasons are adequate.

Section 7 also imposes on the Board the duty of exercising a general superintendence over the training and occupation of defectives.

8. Section 8 provides that joint Committees constituted under Section 29 of the principal Act shall be bodies corporate, that they shall have perpetual succession and a common seal, and that they may hold land for the purpose of their powers and duties without licence in mortmain.

9. Section 9 amends Section 44 of the principal Act, which relates to the determination of residence. The operation of that Section has occasioned some injustice in certain areas where public or charitable institutions have been established and cases of mental defect occurring therein have become chargeable on the Local Authority of the area, irrespective of the patient's original place of residence. Section 9 of the new Act is designed to remove this difficulty by providing that where an Order under the Mental Deficiency Act is made in respect of a person in an institution, his place of residence for the purpose of Section 44 shall be deemed to be the place which was his place of residence immediately before he was received into the institution.

10. Section 10 specifically provides that a Local Authority may receive into its own certified institution defectives from any other Local Authority. It also enables an Authority, which is both the Local Education Authority and the Mental Deficiency Authority, to provide an institution to be used both for a certified institution under the Mental Deficiency Act and for a certified school under the Education Act, 1921.

I am, Sir,
Yours obedient servant,
F. J. WILLIS,
Chairman.

To the Clerk
to each Local Authority under the Mental Deficiency Acts in England and Wales.

GENERAL NURSING COUNCIL FOR ENGLAND AND WALES.

Mental Nursing Committee.—Mr. Blackman, Miss Brown, Miss Bushby, Miss Cowlin, Dr. Fawcett, Lady Galway, Miss Hogg, Dr. Worth.

OBITUARY.

SIR DAVID FERRIER, LL.D., D.Sc., M.D., F.R.C.P., F.R.S.

Honorary Member since 1895, died March 19, 1928.

(A full obituary with photograph will appear in the July issue of the Journal.)

ALEXANDER LAWRENCE, M.A., M.D.Aberd.,

Once Medical Superintendent, Cheshire County Mental Hospital, Upton, Chester.
Ordinary Member since 1870.

There died at Chester, on November 23, 1926, in the person of Dr. Alexander Lawrence, one of the few members remaining of those who joined the Association in the '70's. The news of his decease only reached us recently else this obituary notice would not have been so long delayed. For many particulars regarding his life we are indebted to Mr. Vincent Williams, County Accountant of Cheshire, who has also supplied us with a copy of the *Banffshire Journal* of November 30,

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1926, which devotes more than a column to Lawrence's career under the heading "A Benefactor of Cullen." Though Lawrence spent most of his life at Chester, his heart was in his native town, the picturesque Royal burgh of Cullen, which he visited annually, and where he was a well-known figure and a "valued and mindful friend to the town." In 1910 he and his sister jointly presented the town with its one public clock, a gift of some munificence, which was placed in the steeple of the United Free Church, in memory of their father, who was for many years a leading office-bearer. Lawrence was a keen golfer, an enthusiastic and skilful angler and an ardent naturalist. He knew the flora and fauna of his district well. He had stories to tell of every peak and glen and bit of rocky coast thereabouts, and was a delightful companion, whether ascending the Bin or at golf on Cullen links, or when plying the rod in the Cullen burn. He was, moreover, a lover of books and a great reader of the best literature of this country and of France—a pleasure it is sad to relate he had to forego during the last year or so of his life owing to blindness. Good humour, kindliness and modesty were his outstanding features and he had a host of warm friends and admirers, both in his native town and at Chester, many of whom attended his funeral at Anfield, Liverpool. He left pleasant memories with all who knew him. He died worth £40,381 all of which he bequeathed to the Royal Medical Benevolent Fund, except a gift of £250 to the Chester Royal Infirmary, and about £5,000 in bequests to relatives and friends.

Lawrence was born at Lintmill—a suburb of Cullen, Banffshire—on October 29, 1845. He received his early education at Breadalbane Academy, Aberfeldy, and at the old Grammar School, Aberdeen. He passed on to the University of that city and graduated in Arts in 1866. Taking up medicine as a profession he obtained the degrees of M.B., C.M. in 1869, and the degree of M.D. in 1872.

After holding an appointment as clinical assistant at the West Riding Asylum, Wakefield, he was appointed, in 1870, second Assistant Medical Officer, County Asylum, Upton, Chester, where he succeeded Dr. Davidson as Medical Superintendent in 1895. He retired on superannuation in June, 1910, and died at the great age of 81. For a time he was Superintendent of the Chalmers Hospital, Banff.

The Cheshire Asylum, when he joined the staff there, accommodated only about 500 patients. Under his superintendency many notable advances in care and treatment were made, including the completion of the new buildings, which more than doubled the accommodation.

Lawrence had breadth of mind, great good humour and kindliness which, disarming criticism and opposition, made him a successful administrator. He was highly respected as a psychiatrist, especially in Chester, but his quiet and unassuming disposition favoured a life of retirement and he never sought publicity. He was interested in many sciences, and for many years a member of the Chester Society of Natural Science. He took part in the research work of his friend Dr. John Elliott, of Chester, but never, as far as we know, made any contribution to medical literature himself.

Dr. Lawrence was unmarried and an only son. His only sister, Miss Jane Lawrence, of Cullen, died in February, 1927. J. R. Lord.

John Carlyle Johnstone, M.D.Glasg.

Once Medical Superintendent, Roxburgh District Mental Hospital, Melrose.
Ordinary Member since 1878.

As recorded in the January issue, the death of Dr. J. Carlyle Johnstone took place in Edinburgh on November 6, 1927.

Born in 1855 at Hobkirk, in the county of Roxburgh, Dr. Johnstone received his school education partly at Dumfries Academy and partly on the Continent. At the University of Glasgow he was the most distinguished student of his year, taking five first medals and graduating M.B., C.M., with first-class honours in 1877, and M.D. in 1891.

In 1878 he was appointed Assistant Medical Officer to the Fife and Kinross District Asylum, and became a member of our Association. In 1880 he was appointed Assistant Physician to the Edinburgh Royal Asylum at Morningside, under Sir Thomas Clouston, and in 1885 he became Medical Superintendent of the Roxburgh District Asylum at Melrose—a post he held with much distinction for over thirty years.

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His contributions to the literature of psychiatry, published chiefly in this Journal and in the *Edinburgh Medical Journal*, include studies in aphasia, general paralysis, exophthalmic goitre, and the action and uses of sulphonal. He also assisted Sir Thomas Clouston in the preparation and production of the first edition of *Clinical Lectures on Mental Disease*—for so long the most outstanding work of its kind in this country, and famous for its detailed clinical pictures of individual cases.

He was one of the most accomplished of the large band of brilliant "Cloustonians" who added lustre to the name of Morningside, and who, filling as they did for a generation many of the superintendentships in this country, have helped so much to raise British mental hospital administration to the pre-eminence it has enjoyed for so long.

Under his able direction the Melrose Asylum saw many important changes. Always an enthusiastic believer in the "hospitalization" of such institutions, he was one of the first to introduce hospital trained sisters and to adopt female nursing in the male hospital. He devoted infinite thought and care to the teaching of the nursing staff. Among many admirable structural improvements, the female hospital blocks and isolation blocks deserve special mention as models of what such buildings should be. His activities, however, were by no means confined to indoor administration, and much of the charm of the grounds at Melrose is due to the excellent taste he displayed in the variety and distribution of the trees planted during his earlier years there.

In later years he was a martyr to rheumatic troubles, and though he often continued to work under circumstances which would have confined a less determined man to his bed, he felt obliged to resign his post in 1916. It was, however, entirely foreign to his nature to rest on his oars, and after a short period of recuperation he cheerfully undertook the post of Assistant Physician at Morningside, until the end of the Great War, in order to set free a younger man during the country's dire need.

A member of the Royal Medico-Psychological Association for almost half a century, he was ever one of its staunchest supporters, acting on all its committees at one time or another. He rendered special services on the Education and Parliamentary Committees. His memory should ever be held in most grateful remembrance by all engaged in public mental hospital work for the important part he played in the passing of the Asylums Officers' Superannuation Act. It was largely due to the untiring energies of Dr. Carlyle Johnstone that this measure, after many vexatious delays, was eventually introduced to Parliament by the two Border members, Sir John Barran and Sir John Jardine, and became one of the statutes of the realm.

Much that was written by Dr. Carlyle Johnstone in his moving memoir of his life-long friend, Dr. A. R. Turnbull (vol. lxiii, p. 158), might be said of himself. Both were born under the shadow of the Cheviots; each was the most distinguished student of his year; they served together at Morningside at one of the most brilliant periods of its history; both had great literary gifts; each was a most lovable personality; both of them rather buried their lights under the bushel of district mental hospital administration when they might have sought greater eminence in other directions.

It was the great privilege of the writer to start his apprenticeship in psychiatry under Dr. Carlyle Johnstone, to serve under him for some three years, and to enjoy the pleasure and inspiration of his friendship for nigh twenty years. No man has better deserved esteem and affection.

Never censorious, he had the happy faculty of obtaining obedience and willing service from all. The daily round in his company was a delight, his zeal being obviously appreciated by patients and staff alike.

Sane and logical in reasoning, he was gifted with a remarkable capacity for grasping all those minor points which often prove pitfalls to the unwary—faculties which would surely have secured him eminence in a legal career. Endowed with a subtle sense of humour, ever ready with original aphorism, he was a master of benevolent satire. He could furnish a terse, graphic and entertaining character sketch in a few pregnant words.

Justly proud of an ancient Border lineage, he was steeped in Lowland lore and literature. He was, moreover, a sound classical scholar, and an enthusiastic student of all that is best in English, French and Italian literature.

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It has been the privilege of the writer to listen to masterly addresses by him on the works of Boccaccio, Dante and Shakespeare and many other authors, marvelling at the exquisite diction and the range of erudition displayed, and regretting the while that they were delivered to a limited provincial audience.

Punctilious in all things, extremely courteous, Dr. Johnstone was a perfect host and the best of company.

He was a most patient instructor, and ever ready to help with his wisdom and experience.

A keen devotee of every form of sport, he was in turn cricketer, hockey player, golfer and curler, while for long his Friday tennis parties were the weekly rendezvous of many of the best players in the South of Scotland; but his true sportsmanship is perhaps best illustrated by the fact that, whereas for years he had rarely missed an important Border rugby match, he ungrudgingly confined himself to hospital for the Saturdays of three winters in order that an Assistant Medical Officer might help Melrose to secure the Border championship—a guerdon which that team had not won for over twenty years, and has not since achieved again in nearly twenty subsequent years.

It may be fitly said of Carlyle Johnstone that he never courted attention or applause, that he never played to the gallery, but always put his head down and shoved his weight whole-heartedly in the thick of the scrum.

Though ill-health had led him to demit office and withdraw almost completely from the arena of professional activities, he was able, with his diverse gifts and many hobbies and lively interests, to derive much enjoyment in other directions during his years of retirement, and seemed so well and fit that his end came as a startling shock to all his friends. He passed away, as perhaps he might have asked to do, suddenly and peacefully while spending an evening of quiet enjoyment in the society of a much cherished friend.

To his Scottish colleagues in particular his name will ever bring grateful and affectionate remembrances. Take him all in all, as chief, as colleague, as friend, in all the finest qualities of head and heart, there never trod a better man.

Dr. Johnstone is survived by his widow, a daughter and a son, Dr. F. J. C. Johnstone. To these our deepest sympathies are offered. D. R.

JOSEPH WILLIAM STIRLING CHRISTIE, L.R.C.P.&S.Edin.,

Once Medical Superintendent of the County Mental Hospital, Stafford. Ordinary Member since 1880.

DR. J. W. STIRLING CHRISTIE died on October 17, 1927, at the age of 74, after several years of failing health. He was appointed Assistant Medical Officer to Dr. Pater at the Stafford Asylum in October, 1881, prior to which he was Assistant Medical Officer at Coton Hill Mental Hospital. He succeeded Dr. Pater as Medical Superintendent in May, 1887, and retired in May, 1919, after 37½ years' service with the Stafford Asylum—32 years as Medical Superintendent. He was of a reserved disposition, and devoted the whole of his energies throughout his term of office to the welfare of the Institution under his care with unfailing tact and judgment. He was unmarried. B. H. SHAW.

HENRY ALBERT LAYTON, M.R.C.S., L.R.C.P.Edin.,

Once Medical Superintendent, Cornwall Mental Hospital, Bodmin. Ordinary Member since 1883.

DR. HENRY ALBERT LAYTON was born in 1854. In due course he became a student at University College Hospital, qualifying in 1879. He was for a short time at Broadmoor with Dr. Nicolson, prior to being appointed Assistant Medical Officer to the Cornwall Asylum in February, 1883, Dr. Richard Adams being then the Medical Superintendent.

Dr. Adams retired in August, 1897, having held the post of Medical Superintendent since early in 1857, and Dr. Layton was appointed his successor.

In 1913 Dr. Layton had a severe attack of diphtheria, and his heart was so

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affected that in June, 1914, he resigned, and was granted the full rate of pension then in force. He retired to Bedford, and, his health improving, he was able to undertake a little work with the local Neurological Board. He died at Paignton, Devon, after a short illness, on December 8, 1927.

He was a shy man, of a retiring disposition, but filled his office with exceptional dignity, and was greatly respected by many.

His wife predeceased him a few years ago. His only child, a son, is now an official in the Bank of England. F. DUDLEY.

LANDEL ROSE OSWALD, M.B., C.M.Glasg., M.P.C.,

Once Physician-Superintendent, Glasgow Royal Mental Hospital. Ordinary Member 1890–1926.

We deeply regret to announce the death of Dr. L. R. Oswald, which took place in Glasgow on March 24, 1928.

Born at Blinkbonny, in Fifeshire, in 1861, Dr. Oswald studied at the University of Glasgow, where he graduated M.B., C.M. with Honours in 1888. He gained the Brunton Memorial Scholarship, which is awarded to the most distinguished graduate of the year, and the Foulis Scholarship.

After a year as house physician to Sir W. T. Gairdner at the Western Infirmary, Glasgow, he was appointed, in 1889, Assistant Physician to the Glasgow Royal Asylum, and became a Member of the Royal Medico-Psychological Association in 1890.

In 1891 he was awarded a travelling scholarship and studied for some time on the Continent and in the United States, returning to Gartnavel.

In 1895 he was appointed Physician Superintendent to the Glasgow District Asylum at Gartloch, at that time in course of construction, and carried out most of its organization.

In 1901 he succeeded his former chief, Dr. David Yellowlees, as Physician Superintendent of the Glasgow Royal Asylum, and held that post for twenty-one years, till ill-health compelled him in 1921 to relinquish all work.

In 1904 he was appointed Lecturer in Mental Diseases at the University of Glasgow. Soon afterwards he succeeded in establishing and organizing a regular out-patient clinique for mental and nervous diseases at the Western Infirmary—the first of its kind, we believe, in Scotland. These clinical consultations were greatly appreciated by many.

Dr. Oswald was also actively concerned in the establishment of the West of Scotland Research Laboratory, which has proved such a valuable adjunct to the work of the mental hospitals in that area.

His high intellectual attainments, alertness, great force of character and untiring energies combined to make him a most capable administrator.

His services to psychiatry were very widely recognized and earned him the highest esteem. He was an enthusiastic pioneer of the open-air treatment of mental disorders, even before the days of verandah accommodation.

He took an active part in the Scottish Division of our Association, and was a President of the Section of Neurology and Psychiatry of the British Medical Association. He was a fluent speaker, keen and shrewd in debate.

A bachelor, Dr. Oswald lived almost entirely for his work and in the interests of the patients and the institution under his charge.

It was the privilege of the writer to be for a time his senior assistant, and who benefited very greatly from the force of his example and teaching.

Though a strict disciplinarian, no man went to greater lengths to help any member of his staff; indeed, to some of us he will be best remembered for his consideration and his kindness to his juniors. He was a most staunch friend and wise counsellor.

His later years were marked by a long and painful illness in which he endured much acute suffering. D. R.

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HENRY MARCUS EUSTACE, B.A., M.D.Dubl.,

Medical Superintendent, Hampstead and Highfield Mental Hospital, Glasnevin, Dublin. Ordinary Member since 1894.

Near Glasnevin and Drumcondra, in Co. Dublin, there is a happy colony for mental patients at Hampstead and Highfield. The latter especially has an extensive view of the beautiful Dublin Bay, with the Co. Dublin and Co. Wicklow mountains for a background.

Villas, bungalows and dainty cottages are to be found in an extensive demesne, and near them are artistically laid out gardens and a large, well-stocked farm with the most modern farm buildings.

In this self-supporting, well-managed and delightful estate, where Sir Robert Steele, the author of the *Tatler*, resided, and which Dean Swift often visited, three generations of the Eustace family have devoted themselves for a period of more than 100 years to the treatment of mental patients of the private class.

We regret that the head of the third generation, Dr. Henry Marcus Eustace, died suddenly on December 21 last. His passing at the age of 58 years was as sudden as it was unexpected. For twenty-eight years he had been Senior Resident Physician of the Hampstead and Highfield Private Mental Hospital, while for thirty-three years he was devoted to the study and treatment of mental disorders.

He was educated at the Royal School, Armagh, and at Dublin University, where he obtained the degrees of B.A. in 1890, M.B., B.Ch. in 1892, and M.D. in 1895. He was a student at Sir Patrick Dun's Hospital, Dublin, and a Resident Medical Officer at Steevens's Hospital, Dublin. For a time he worked under Sir Thomas Clouston at Morningside, Edinburgh. He was for many years a member of the Royal Medico-Psychological Association, and he held the Medico-Psychological Certificate.

He was Consultant in Mental and Nervous Diseases at Drumcondra Hospital, Dublin. He contributed articles on "Paranoia" and "Dementia Præcox" to the *Journal of Mental Science*.

As Resident Physician at Hampstead House and Highfield, Dr. Eustace had great success in the treatment of mental diseases. He had a most kindly and sympathetic nature. He took infinite pains, and grudged no labour in caring for his patients. They were his friends and remained his friends. His charm of manner and remarkable sense of humour endeared him to them and to the large staff which he controlled with such tact, discrimination and justice.

In his younger days he was a keen first-class Rugby football player. He was also a sound cricketer. Up to the last he was an enthusiastic golfer and lawn tennis player.

His brother and colleague, Dr. William Neilson Eustace, is left to carry on the good work in which they were so harmoniously associated for many years.

He leaves also a widow and sisters, and several nephews and nieces, who will, no doubt, as the fourth generation carry on the same work, inspired by the memory of a most lovable and unselfish character and of a life wholly devoted to the afflicted.

By the death of such a skilful physician, such an experienced administrator and expert in the treatment of mental disorders, psychiatry in Ireland suffers a severe loss.

DANIEL F. RAMBAUT.

ALEXANDER SIMPSON, *C.B.E.*, M.A., M.D.Aberd.,

Once Medical Superintendent, Lancashire County Mental Hospital, Winwick. Ordinary Member 1901–1927.

We regret to announce the death of Dr. A. Simpson, which occurred suddenly on March 27, 1928, at Brighton.

Dr. Simpson was born on November 25, 1861, at Aberdeen. After a distinguished school career he proceeded to the University of that city and graduated M.A., 1882, M.B., C.M., 1886, and M.D. 1892.

After graduation he went to Vienna where he spent a year in studying ear and eye diseases. On his return to England he became House-Surgeon at the Weston-super-Mare General Hospital.

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Dr. Simpson began his psychiatric career at Haywards Heath Asylum, from whence he went to Newcastle City Asylum. In 1894 he was appointed Deputy Medical Superintendent at the Lancashire County Asylum, Whittingham. In 1901 he was appointed Medical Superintendent of the then new Lancashire County Mental Hospital at Winwick, where he remained until his retirement in December, 1923.

Simpson was the soul of honour and loyalty. His work was characterized by thoroughness, and he gained the respect of all. He had a strong literary bent and books were his "great friends." He was a lover of the country and a great walker, this being his principal out-door enjoyments. His administrative capabilities were of a very high order and the welfare and interest of the patients his sole concern.

From March, 1915, to 1921, the Winwick Asylum became the Lord Derby War Hospital, and Dr. Simpson was appointed Administrator with the rank of Lieutenant-Colonel, R.A.M.C.

For his war services he received the *C.B.E.*, and was appointed a Deputy Lieutenant of the County of Lancaster.

His sudden death was a great shock to us all at Winwick, after so short a retirement.

He leaves a widow and son to mourn his loss, to whom our sincere sympathy is extended.

F. M. RODGERS.

NOTICES BY THE REGISTRAR.

The Gaskell Gold Medal and Prize for 1928.

The Certificate in Psychological Medicine.

The Examination for the Gaskell Gold Medal and Prize and for the M.P.C. will be held on Thursday May 31 and Friday June 1 at the Maudsley Hospital, Denmark Hill, London, S.E. 5.

Candidates are reminded that a thesis based on original research may be accepted by the Examiners in place of either the written or the clinical examination, or both.

The Bronze Medal and Prize for 1929.

Dissertations for the Association's Bronze Medal and Prize must be delivered to the Registrar by April 30, 1929.

Divisional Prizes for 1928.

Papers certified as eligible for this competition must be forwarded to the Registrar not later than April 30, 1929 (*vide* new regulation, *Journ. Ment. Sci.*, October, 1927, p. 775).

Circulars and all information regarding the above competitions may be obtained on application to the Registrar, St. Andrew's Hospital, Northampton.

EXAMINATIONS FOR THE NURSING CERTIFICATES, NOVEMBER, 1927.

List of Successful Candidates.

Those marked * passed "with distinction."

Mental Nursing.

Berkshire.—Louisa Violet Roberts, Grace W. B. B. Butler, Florence Winifred Bartlett, Herbery Tidbury, Alfred Redvers Allen, Edward Russell Smith.

Cambridge.—Wilfred Harry Carter, Stephen Edward Collins, Frank Victor Warner, Dorothy Louise Ling.

Cheshire, Chester.—Florence Ellis, Alice Bibby, Dorothy King, *Emily Nicholson, *Mary Ellen Morgan, Alice Ginty Garvey, Mary Margaret Arthur, Clarice Steele, Doris Grieg, Lucy Holmes, Ivy Mabel Richards, Mary Linegar.

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Cheshire, Parkside.—Dorothy J. Barton, Annie D. Jones, Alice Keaney, *Bridie Moran, Margaret M. Morgan, Dorothy A. Price, Blodwyn E. Pritchard, Henrietta Hughes, Annie Cotter, Norah White, Eddie Shufflebotham, James Dunkerley.

Cornwall.—Harry Vigus, Helen Searle.

Derbyshire.—Mary Ellen Evans, Stephen Tunstall, Malcolm Heaver, Thomas Bettison, Maurice Wroe.

Dorset.—Arthur James William Gilbert.

Durham.—Robert Kenny, Ernest Reginald Ness.

Essex, Brentwood.—Louisa Gladys Drury, Grace Sarah Revell, Constance Marjorie Goddin, Ada Smith, Phyllis Ball, Herbert Johnson, Reginald Percy Irwin, William Archibald Hood, Alport Taylor.

Essex, Severalls.—Olwen Peters, Beatrice Bertha Nash, Garnett Caward, Frank Albert Hallet, James Alfred May, Edward George Please, Albert Edward Peachey.

Gloucestershire 1st Mental Hospital.—Susan Price, Thomas Henry Hall, William John Davis.

Hampshire, Knowle.—Irene Elizabeth Arm, William Richard Bowers, Edward John Prout.

Hampshire, Park Prewett.—Viola Emily Foxall, Flora Macdonald, Maggy Elizabeth O. Smith, Mary MacSherry, Frederick Charles Postle, Albert Locke, John Vincent Johnson, Kenneth Hugh Smith, Francis Sidney J. Messer, Theodore Stanley Bowen, Frederick John Lock.

Herefordshire.—Margaret Florence Wilson.

Hertfordshire.—Dorothy Emily Long, Elizabeth Mary Miles.

Isle of Wight.—Dora Frances Pitt, Irene K. A. Langridge.

Kent, Chartham.—Florence Agnes Roden Baker.

Kent, Maidstone.—*Caroline Amey Ruark.

Lancashire, Winwick.—*Lily Burke, Martha Thornton, Reginald James Davies, John Joseph Houghton, Reginald Oscar Shenton, James Walsh.

London, Banstead.—Albert Bayliss, George Frederick Crawley, Andrew Stribbling, Ernest Thomason, Mabel Victoria Clarke, Lydia Margaret Collins, Bridget M. FitzGerald, Hilda M. Ketteringham, Doris H. McNaughton, Elsie Adelaide Nicholl, Irene Robinson, Violet Sheehan, Emily Mary Spencer, Annie Edith Williamson.

London, Bexley.—Stanley Richard T. Ball, Albert George Maskell, Edward Percy William Terry, Robert Chas. Lee, Joseph Reason, Albert Edward Painting, William Upton, Lilian M. Offord, Vera Beatrice Wagner, Alice May Ballard, Alice Margaret Doherty, Constance Rose Vickers, Nellie Atkin, Grace Cubitt, Elsie Emily Page, Annie Florence Smith, Olive Mabel King, Lilian May Turnbull, Lily Alice Holmes.

London, Cane Hill.—Ada Lizzie Pegler, *Gladys A. Russom, Anna Maria Devine, Katie McMorrow, *Violet M. Druce, Blanche Elizabeth Blandl, Katherine Bull, Charles Kenneth Bell, Peter Walter Purkiss, Walter Leonard Smith, Oliver William D. Young, Cyril Everest Phillips, Christopher Harry Bond, Henry Taylor, Julia Olive Vidler, Catherine McGrath, Alice Lavinia Horlock, Irene Booth, Doris Helen Allison, Elizabeth Annie Banley, John Wilkinson, George Bernard Jones, Alfrod John Andrews, Charles A. Cooper, Cecil Melville Bourne, Walter Webster, Roland Ernest Wood.

London, Claybury.—Beryl Curtis, Irene Jane Fear, Cissie Coffey, Catherine A. Hayden, Constance Elizabeth Milton, Lily Florence Gowler, Catherine McKinnon, Benjamin Frederick Woolard, George G. Knowles, Mabel Victoria Cooke, Bridget Fitzgerald, Elsie G. Bryne, Dorothy V. Guntrip, Dorothy M. Akers, Clara Carr, Nellie Nickless, Joseph Alexander Short, Bertie Leonard Taylor.

London, Colney Hatch.—John W. Simmons, William Edward Ford, Alfred Henry Coleman, Henry James Cottle, Alfred Richard Duke, Frederick Charles Barry, Kate Blanchard, Alice Ruth Evans, Sarah Ann Davis, John Healy, Albert Frederick Gudgeon, Ernest Geo. Wilkinson, John Hooton, Frank Nash, George Edward Grover, Elsie Emily Harwood, Mabel Edith Walker.

London, Hanwell.—Albert Poole, John G. Andrews, John M. Ellis, Bertram S. L. Sargent, Clarence W. Russell, Harry H. Chaplin, Druscilla M. Eales, Harry A. Price, Lawrence L. Darbin, Robert C. Sadler, Owen A. Costar, James A. Taylor, Harriet L. Southway, Marjorie A. Musto.

London, Horton.—Martha Ayres, Margaret M. Donnelly, Kathleen V. Fowle, Isabella Finlayson, Mary Wailes.

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London, Long Grove.—Marion Hannah Lesney, Florence Emily Tomkins, Mona F. Winterton, Samuel Bird, Edward Fellows, James Hepworth, John Hunt, Frederick Luxford, Philip Edgar Marshall, Archibald Rowland, Fred Victor Sadler.

London, Maudsley.—Alma Bradley, Maud Robertson.

London, West Park.—Elizabeth Watkins, Bessie Beatrice Sames, John C. Baulch, Albert E. Clack, A. J. Greenaway, A. J. Holbrow, Charles B. Lane, William MacLean, Mark V. Reynolds, W. W. C. Siggers, Thomas F. Richardson, Ernest F. Flower, Alex Whitworth Lee, Allen Willmer, Susan Rooney, Winifred Donaldson, Margaret Taylor, Eleanor V. Dornan, Dorothy M. Barker, Thomas Carr, *Arthur Fox, V. R. J. Griffiths, William W. Lucas, Alfred C. Lovett, Frederick S. Rudge, E. H. Richardson, Frederick Treadaway, Herbert C. Danbrook, Henry Keay, George T. Stickels, Arthur W. Hunt, Norah Lee, Jessie Dorcas Walls, Winifred Dunne.

Middlesex, Napsbury.—John Hornett, Ernest Durrant, Arthur R. Kerwood, Herbert Henry R. King.

Middlesex, Springfield.—Charles Henry Bird, Robert B. Corser, Arthur Henry Wilcoxon, Alfred Sparks, Walter R. H. Jones, David Rutherford, Samuel D. Driscoll, John Edward Howse, Alice W. Lockton, Ivy Mabel Deacon, Christine Elizabeth Poynter, Florence B. Groombridge, Daisy Martha Pointer, Mary Millett, Kate Elizabeth Ward.

Mid-Wales.—Charles Green.

Northamptonshire.—Thomas Geo. Woodford, Margaret V. Beale.

Nottinghamshire.—Frederick H. Batty, Claude Henry Bull, Edith M. Chrich, Elsie Jones, Dorothy O'Grady.

Oxfordshire.—Ronald A. Langton, Leonard Sidney Elliott, Harry George Walker, Edna Annie Watts, Edith Lewis.

Somerset and Bath, Wells.—Arthur Frederick Gibson, John Hancock, John Anning.

Staffordshire, Burntwood.—Hilda Oliver, Samuel Henry Dulson.

Suffolk, St. Audry's.—Kathleen Matthews.

Surrey, Brookwood.—Charlotte Morrison, Gertrude Pepworth.

Surrey, Netherne.—Alfred John Baker, James Hallowes.

Sussex, Chichester.—Vera Lawrence, Lily Evelyn Taylor, Myrtle C. B. Morris, Doris May Himmens, Alfred Charles Wood.

Sussex, Hellingly.—Ivy Rhoda Lower, *Pansy Olive Baldry, Harriett Jones, Arthur Leslie May.

Wiltshire.—*Lilian Doris Randell, Violet M. Ponting, Maude Victoria Roberts, Ralph Wm. Johnson, Frederick Wm. Savage, Frank Brindle, Alfred Edward Blagden, Lloyd John Porter, Sidney R. Halbett.

Worcestershire, Barnsley Hall.—Ethel Seymour, Margaret Thomas.

Yorkshire, Beverley.—Frederick R. Ball, William Gregory, Martha Mateer.

Yorkshire, Clifton.—George H. E. Everett, William Duthoit.

Yorkshire, Menston.—Robert Weightman, John Emmott Mann, Joseph Waite, Joseph Hamilton Swift, Joshua Margreaves, George Henry McKinley, Annie Leane, Isabell Watson, Mary Queenie Appleton, Thomas A. Devine, Alfred Eden Steel, George Henry Potter, Lilian Macdonald, Hannah Tillotson, Cecilia Metcalfe.

Yorkshire, Storthes Hall.—George Wadd.

Yorkshire, Wadsley.—Ethel May Buet, Doris Elliott, Norah Green, Grace Godison, Winnie Ibbotson, Alice Leet, Lucy Helen Winterton, Thomas Joe Slack, Arthur Henry Colley.

Birmingham, Rubery Hill.—William Janes Bulivant, *Thomas Henry Hopkinson, Reginald S. Longmore, William Arthur Read, *Albert Edward Taylor, George E. Dakin, Frederick H. Tipley, Albert Drew, *Florence Macdonald, *Louisa Eleanor Wilkes, *Dorothy Gatenby, Emily Tolley, Mary Jane Sheridan.

Birmingham, Winson Green.—Mildred Morris, *Mahalah M. R. Cooper, Maggie McKie, Nora Stokes, Charles Hector Rayne.

Brighton.—Harry William Critchell.

Bristol.—George F. Moore, Raymond Charles Cavill, Percy Harold Higgins, Ernest Clifford Hilman, Harold Hitchinman.

Croydon.—Edgar James Major.

Derby.—Hannah S. Wagstaffe, Kathleen Mannix, Mary E. Connolly.

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Gateshead.—Thomas Cole, Albert Edward K. Dodd, Hubert Prince, Redvers Baden Richardson.

Hull.—Peter Jackson, Albert Cowton, Frederick John Cole, Angela Blaney.

Newcastle.—Olive Maud Owen, Thomas W. Rowntree.

Newport.—John Arthur Bound, Charles Harold Davies.

Norwich.—Violet Coomber, Marie Ethel May Flack, Amy Florence Palmer, Mildred Maud Whitlock, Arthur William Kerrison, George Knapp.

Nottingham City.—Alfred Thomas Hunt, Robert Arthur Fisher, John Denton Stone, Granville M. Barlow, Alive Savage, Violet Godetia Palmer, Mary Scott, Beatrice Slaney, Harry Brailsford.

Plymouth.—Hilda M. Bovey, Leonora Lillian Burge, Ethel Margery Moore.

Portsmouth.—Harold Chiverton, Jesse Gibson, Frederick James Brunnen, George James.

Sunderland.—Joseph Wilkinson, George Emmerson, Joseph Williams, Thomas Ferry, Patrick Tumilty, Edward Laws, Annie O'Sullivan.

West Ham.—Joseph Dodd, William Eaton, Charles Henry Horwood, James Stanley Nixon, Edith Mary Tuffield, Williams Wadsworth.

York City.—*Mary Adlington, William Arthur Jarrett, Clara M. Outen, Ethel May Shaw.

M.A.B., Fountain.—Kathleen Sybil Colley, Olive Annie Allen, Daisy Kate Lyon, Annie Evans, Doris A. Downey, Lily Winifred Taylor, Margaret Agnes Mist.

M.A.B., Tooting Bec.—Ida Baldwin, Edith F. Johnson, Doris Evelyn Webb, Helen Wade, Alice Slevin, Elizabeth D'Arcy, Norah Ryan, Mabel W. A. Gosling, Jane Mateer, Frederick Richards.

Bailbrook House.—*Dorothy F. E. Mundy.

Bethlem Royal.—George Robert Green, Frederick Alfred Reeve, Alice Seline Atkins, Bessie Goodall, Violet Mary Nash, Winifred M. Kinsey.

Bootham Park.—Gertrude Jackson, Walter Harbottle, George W. Wallace.

Camberwell House.—*Minnie G. Beckingham, Ada Caroline Divall, Mary Wallace Haddow, Catherine Constance Wheeler.

Northumberland House.—Jessie Drummond Sadler.

St. Andrew's, Northampton.—Richard Cherry, Charles Henry Hickerson, John Henry Wood, Joseph Williams, Dighton Clarke, Maura Josephine Bligh, Clara Hilda Medhurst, May Young.

The Old Manor.—*Emily Jane Duff, *Henry Ernest Wright, Leonard Bruce Wood.

The Retreat, York.—Gertrude Mary Oldfield, Ivy Polkinghorn, Herbert Eustace Noble.

Warneford House.—Elsie Isabel MacPherson, Margaret N. Seaborne.

Wonford House.—Nellie Hayden, Harold Leslie Musk.

Aberdeen City.—Mary H. Massie, Annie Wilson, Jeannie T. Gordon, Isabella Kynoch, Jeannie W. D. Riddell.

Aberdeen Royal.—Jessie Ann Vass, Elizabeth Duncan, Catherine Ann Cowie, Annie McGregor.

Argyll and Bute.—*Jessie Duff Downey, Elizabeth M. Macdonald.

Crichton Royal.—John Hannay, *Jean Rennie Cumming, Mary Ann Irvine, Mary Bell, Eleanor Addison Napier, Jane Adamson McCulloch, Grizzell S. M. Borthwick, Christian M. Douglas, Ina Stewart, Barbara Swan Carr, Alice Gow Ritchie, Annie McMillan, Annie Paul, *Elizabeth Gollan, Catherine Ann McLeod, Barbara Ellen Straiton, Margaret Kennedy, Mary Jane Doherty.

Edinburgh, Bangour.—Margaret Crampsie, Elizabeth H. Gillies, Agnes Boyd Halliday, Mary Mawer, Isabella McKenzie, Helen Potter, Elizabeth F. G. Scott, Amelia Titterington, John Lambie.

Edinburgh Royal, Craig House.—Elizabeth Crawford, Elizabeth Ferrier, Netta Fraser, Nellie Scott, Jessie Taylor, Thomas Seath, William Wilkinson.

Edinburgh Royal.—Annie Murphy, Agnes Macdonald, Sarah Stevenson, Margaret M. L. Himpel, Ruby Douglas, *Jessie Macleod.

Glasgow, Gartloch.—Peggy Munro, Agnes Logan Laurie Gracie, Catherine Chisholm, Janet Stevenson Wilson, Mary Catherine Mackenzie, Mary Helen Dolan, Elizabeth M. Langan, Jessie Campbell, Angus Macleod.

Glasgow, Woodilee.—Mary Reid, Elizabeth Smillie, Catherine Campbell, *Martha Sneddon, *Margaret McLeavy, Maud Pitman, Kate Smith, Catherine Mackay, James Williams.

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Greenock.—*Annie McVean, Christina Ann McRaild, Irene Lilian Hilda Branch, Donald McInnes, Alexander McDonald.

Inverness.—Hughina Leith, Mabel Spence, Catherine Philip, Chas. Henry Marshall, Hugh John Murray, Donald Campbell.

Midlothian.—Isabella C. Morrison, Agnes A. Sutherland.

Montrose.—Jean Campbell, Dolina MacLeod.

Paisley.—Mary Bella Allen.

Roxburgh.—Isabella Campbell, Alexander Gordon.

Stirling.—Margaret Jane McDermott, Catherine Doyle, Ann Robertson, Alexia Mary Hendry, Christina McLennan, Margaret McCollum, Thomasina Mitchell, Mary Gaffney, Ellen Holland, James Ramsay Galloway Sinclair, James Reid, Donald E. Macdonald, Ronald Macdonald, John Duffy, John Alfred Buchanan.

Belfast.—Elizabeth Fegan.

Down.—Sarah Lynch, Sarah McComb, William John McComb.

Dublin, Grangegorman.—Albert Millken, Russell R. Hendry, James J. Kerrigan, Mary Sloan, Mary McMahon, Elizabeth Brady.

Dublin, Portrane.—Elizabeth McDonald, Ellen Sargent, Roland J. Hill.

Maryborough.—Thomas Coonan.

Omagh.—Bernard McAleer, Charles Shannon.

St. Patrick's Hospital.—Bridget Monaghan, Eileen Dunning, Lily O'Toole, Francis Sheridan, Eugene Carolan.

South Africa, Bloemfontein.—Margaretha Johanna Stofberg, Margaritha Isabella du Toit, Johanna Christina Weideman, Martha Prinsloo, Tjaart Hendrik du Plessis, Jan Frederik Robinson, Gerhardus Cornelius du Plessis, John Kays Bates, George Banjamin van der Merwe, Dirk Petrus van Aswegen.

South Africa, Cape Town, Alexandra Institution.—Martha Magdelena Bezuidenhout.

South Africa, Grahamstown.—Paulina Elizabeth du Preez, Susannah Elizabeth Grassman, Jacomina Johanna van der Merwe, Hendrik Johannes Heath, Sidney Morey, Dirk Johannes Willem van der Mescht, Samuel Boshoff Bessinger, Conrad Johannes Groenewald.

South Africa, Pietermaritzberg.—Christoffel Beread Moolman, George Alfred McGee, Andrew Martin Pretorius, Gladys Vera Kathleen Bosse, Mary Gorrie, Emily Martin, Dorothy Kathleen Pierce, Bertha Elizabeth Priscilla Bowen.

South Africa, Port Alfred.—Esaias Engelbertus Botha, Hilda Mary Cusens, Maria Susan Johanna Goosen, Pretonella Martha Hartman, John Robert Francis Holl, Christina Frances Inglis, Elizabeth Catharina Joubert, Kathleen Elizabeth Robey, Hazel Brown Smith, Lulu Janet Strauch, Lilian Madge Strauch.

South Africa, Potchefstroom, Witrand Institute.—Johanna Christina Lombaard.

South Africa, Pretoria.—Andries Nicolaas Bornman, Harry Frederick Cripps, Sarah Johanna Susanna Delvet, Rubina Margaret Henderson, Ellen Lucia Kamp, Johanna Maria Kamp, Dirkie Georgina Louwren, Michiel Daniel Nel, Hazel Stella Sharp, Elizabet Hendrina Strydom, Barbara Christina van der Linden, Helena Elizabetha Viljoen.

South Africa, Queenstown.—Pieter Josiah Van Heerden, Johanna Jemina Palmer, Elsie Sophia Maria Bekker, Susara Jacoba Gertruida Van Greunen, Hester Gertruida Nel, Louisa Hester Theron.

South Africa, Valkenberg.—Annie Wilhelmina Visser, Sara Johanna van Zyl Heyns, Maria Magdelena Jacomina van Jaarsveld, Elizabeth Young, Nellie Minnie Sammon Savage, Frances Freda Rowe, Johanna Jacoba van der Merwe, Hester Wilhelmina Carsteus, Daniel Johannes Marthinus Kotze, Gideon Jacobus Scheepers Kuys Raubenheimer.

Nursing of Mental Defectives.

Calderstones.—George William Snook, Willie Breckon, Alexander Britch.

M.A.B., Caterham.—Muriel Alice Blummer, Kathleen Thomas.

M.A.B., Darenth.—Winifred Alice Gration, Lilian Standen, Rose Elizabeth Bennett.

M.A.B., Leavesden.—Clarice Emma Batchelor, Eva Mabel Codling, Mabel Dickinson, May Evans, Edith Grace Keeble, Ena Mary Lineker, Daisy Violet Speller.

London, South Side Home.—Florence May Davies, Elsie Elizabeth Davies, *Elizabeth Claudia Parry.

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London, The Manor.—Harry William Weatherall, *Ronald A. Partrick, Ernest James Styles, *Alfred Harry Field, John Harold Hill, Alexander Allan.

Stoneyetts Institution.—Ethel Strachan, Jane McLauchlin.

South Africa, Alexandra Institution.—Aletta Johanna Elizabeth Carse.

South Africa, Witrand Institute.—William Andries van der Merwe, Charles Stefanus Jacobus Marais.

NOTICES OF MEETINGS.

Quarterly General Meeting and the Ninth Maudsley Lecture.—May 16, at the British Medical Association House, Tavistock Square, London, W.C. 1.

South-Eastern Division.—April 26, 1928, at the Royal Eastern Counties Institution, Colchester.

South-Western Division.—April 26, 1928, at the Stoke Park Colony, Bristol.

Northern and Midland Division.—April 26, 1928, at Bracebridge Heath Mental Hospital, Lincoln.

Scottish Division.—May 24 and 25, 1928, at the Crichton Royal, Dumfries.

Irish Division.—April 12, 1928, at St. Edmondsbury, Lucan.

Clinical Sub-Committee.—April 16, 1928, at the British Medical Association House.

Psycho-therapy and Psycho-pathology Sub-Committee.—April 30, 1928, at the Lancashire County Mental Hospital, Winwick.

Mental Deficiency Sub-Committee.—May 3, 1928, at the British Medical Association House.

Pathological, Bacteriological and Biochemical Sub-Committee.—May 8, 1928, at Rubery Hill Mental Hospital, Birmingham.

Encephalitis Sub-Committee.—May 10, 1928, at the Maudsley Hospital, Denmark Hill, London.

General Paralysis Sub-Committee.—May 30, 1928, at Horton Mental Hospital, Epsom.

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The following Mental Hospital Reports for the year 1926–27 have been received :

Aberdeen Royal.
Crichton Royal.
Devon County.
Glengall, Ayr.
Royal Edinburgh.

Also the following Reports, Reprints and Journals :

The Journal of the Egyptian Medical Association, Nos. I and II.
La Prophylaxie Mentale, No. 12.
Egypt : Lunacy Division Report, 1926.
The Craig Colony for Epileptics, Annual Report, 1926.
Bloomingdale Hospital, New York Annual Report, 1926.
The Annual Report of the Smithsonian Instituton, 1926.
Peru : Legislación sobre asistencia de los aleinados y de los Toxicomanos, by *Drs. Cornejo, Lorente and Caravedo.*
On a Social Approach to Neurotic Conditions, by *Dr. Hans C. Syz.*
Observations on Experimental Convulsions, etc., by *Dr. Hans. C. Syz.*
Convulsions in Infancy and their Relationship, if any, to a subsequent Epilepsy, by *Dr. W. T. Shanahan.*
A Case of Diplococcal Infection of the Sphenoid Sinus with Associated Hæmorrhages in the Stomach, by *Dr. F. A. Pickworth.*
Perforation of the Pituitary Fossa by a Septic Lesion of the Sphenoidal Sinus associated with Recent Epilepsy and Insanity, by *Dr. F. A. Pickworth.*
Horse-power of the Mind, by *Lybrand Smith.*

Books received for review :

A Text-book of Psychiatry for Students and Graduates in Schools of Nursing, by *Arthur P. Noyes.*
Le Syndrome Manaque, par le *Dr. A. Deron.*
Psychophysiologie et Psychopathologie du Corps Thyroïde, par le *Dr. A. Sicco.*
Les Obsédés, par *Raymond Mallet.*
The Significance of the Physical Constitution in Mental Disease, by *F. J. Wertheimer* and *Florence E. Hesketh.*
Animal and Human Conduct, by *William E. Ritter.*
Brain and Mind or the Nervous System of Man, by *R. J. A. Berry, M.D., F.R.C.S., F.R.S.E.*
Mental Disorders, by *Dr. Hubert J. Norman.*
Principles of Abnormal Psychology, by *Edmund S. Conklin.*
Stammering, by *Isador H. Coriat, M.D.*
Common Principles in Psychology and Physiology, by *John T. Macurdy.*
Epilepsy, by *L. J. J. Muskens, M.D.*
Instinct and Personality, by *Prof. A. Campbell Garnett, M.D.*
An Experimental Study of Affects and Associations, due to Certain Odors, by *J. H. Kenneth, M.A., Ph.D.*
Mental Hygiene, by *Daniel Wolford la Rue, Ph.D.*

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EDITORS
J. R. Lord, C.B.E., M.D. Douglas McRae, M.D.
Thomas Beaton, O.B.E., M.D.

ASSISTANT EDITOR
Alexander Walk, M.D.

LONDON
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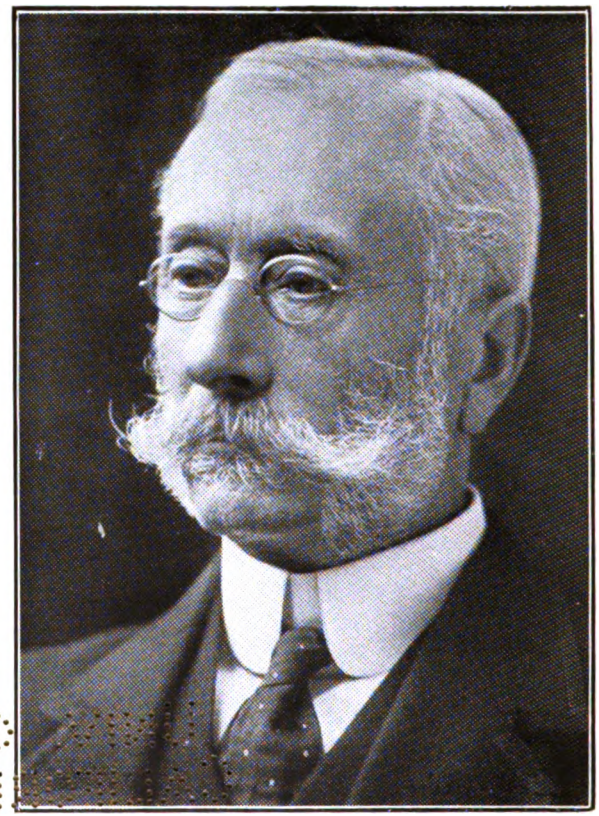

SIR DAVID FERRIER, F.R.S.

Born 1843.
Died March 19, 1928.

Honorary Member
since 1895.

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THE
JOURNAL OF MENTAL SCIENCE
[*Published by Authority of the Royal Medico-Psychological Association.*]

No. 306 [NEW SERIES No. 270.] JULY, 1928. VOL. LXXIV.

SIR DAVID FERRIER, LL.D., Sc.D., M.D., F.R.C.P., F.R.S. 1843–1928.

By the death of Sir David Ferrier, which occurred in the early part of this year, we have lost the last survivor of that galaxy of great men who founded the British School of Neurology, and made the name of the National Hospital, Queen Square, famous throughout the world.

Ferrier was born at Woodside, near Aberdeen, in 1843, and died on March 19, 1928, at York House, Kensington, in his 86th year. He was educated at the Grammar School of Aberdeen, and while at school gained, in open competition from the whole of Scotland, a bursary which enabled him to enter the University of Aberdeen in 1859. After a brilliant career as a student he graduated as Master of Arts in 1863 with first-class honours in the humanities and philosophy, and further distinguished himself by winning the Ferguson Scholarship—a prize open to graduates of all four Scottish Universities.

During his University career at Aberdeen Ferrier came in contact with Alexander Bain, the Professor of Logic, and largely through his influence became interested in the study of psychology, and thus it was that in 1864 Ferrier went to Heidelberg to pursue his studies in this subject. During his stay at Heidelberg he decided to devote himself to medicine and returning to Scotland in 1865 commenced his medical studies at the University of Edinburgh, where he graduated in 1868. During his undergraduate career in Edinburgh his brilliance again attracted attention, and Laycock, who was then Professor of the Practice of Physic in the University, appointed Ferrier his assistant.

Ferrier would doubtless have achieved fame and brought honour to his University had he remained in Edinburgh, but he had of necessity to supplement his income by coaching, and he soon

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realized the limitations which this work was placing upon him. He therefore decided to resign his position under Laycock and take up general practice.

He became assistant to Dr. William Edmund Image, an able and cultured man, who was a Fellow of the Royal College of Surgeons, and practised at Bury St. Edmunds. He was fortunate in being associated with a man of Dr. Image's insight, for Image soon realized that Ferrier's abilities called for a wider scope, and he encouraged him to devote himself to research, thus making it possible for Ferrier to undertake a research upon the "Comparative Anatomy of the Corpora Quadrigemina." Ferrier presented this as a thesis for his M.D. Degree in 1870, and was awarded a Gold Medal. In the same year he came to London to work under Prof. Burdon Sanderson, who was then Professor-Superintendent of the Brown Institution. When Burdon Sanderson resigned the Lectureship in Physiology at the Middlesex Hospital he was succeeded by Ferrier, who, however, relinquished this post shortly afterwards, and in 1871 began his long association with the Medical School of King's College Hospital, where he was appointed Demonstrator in Physiology. In 1872 he was elected to the post of Lecturer on Medical Jurisprudence, and soon after succeeded Prof. Guy in the chair of Forensic Medicine. This post Ferrier held until 1889, when he was appointed Professor of Neuropathology at King's College Hospital, a new chair having been specially created in his honour.

Ferrier commenced his experimental work on cerebral localization in 1873, and during the next three years he worked with almost inconceivable energy and concentration on his researches on cerebral localization. He was able, in these three years, to publish fully the results of his experimental work, his first paper, under the title of "Experimental Researches in Cerebral Physiology and Pathology" appearing in the *Reports of the West Riding Asylum*. At various intervals during 1874 and 1875 he made known further results, and in the latter year he delivered the Croonian Lectures before the Royal Society on "The Localization of Function in the Brain."

In 1876 he published the first edition of his book, *The Functions of the Brain*. Previous to the publication of this work the results of Ferrier's researches had attracted the attention chiefly of those interested in the subject, but on its advent the attention of the medical world was immediately focused upon the subject and upon Ferrier. It is easy to trace the influence which the publication of this book had upon physiology and medicine, for when, ten years later, Ferrier published a second edition, the book was enlarged

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and practically rewritten, the new matter incorporated being a striking testimony to the stimulus which this work had exerted both upon physiology and neurology.

Ferrier continued research work in the neurological laboratory of King's College Hospital up till 1898. It was characteristic of him that he should have continued this work for over twenty years, during which time his days were fully occupied with hospital duties and the heavy burden of a large and ever-increasing practice.

Amongst his later publications were: The Croonian Lectures on *Cerebral Localization*, delivered before the Royal College of Physicians in 1890, the Harveian Oration on *The Heart and Nervous System* in 1902, the Lumleian Lectures on *Tabes Dorsalis* in 1906, and his article on "The Regional Diagnosis of Cerebral Disease" which he contributed to Allbutt and Rolleston's *System of Medicine*.

It is hard to realize at the present time the difficulties which Ferrier had to overcome, and it is only when we read his scientific writings that we can fully appreciate the magnitude of his labours. His experimental work was subjected to criticism from physiologists and clinicians, and objections were raised as to the technique which he employed. With infinite patience he dealt seriatim with all objections advanced and was scrupulously fair in the presentation of each problem. Whether engaged in disposing of preconceived theories or in developing his own deductions and inferences, his method was always calm and logical and backed up by the citation of numerous facts, and his favourite quotation from G. H. Lewes, "Indeed every discovery is a verified hypothesis, and there is no discovery until verification has been gained; up to this point it was a guess which may have been erroneous," typifies the spirit in which his experimental work was undertaken.

Whatever mistakes Ferrier made—and they were few—the fact remains that subsequent researches have not fundamentally altered the conclusions he arrived at.

Ferrier commenced his hospital practice in 1873, when he was appointed Assistant Physician to the West London Hospital. His name, however, will always be associated with two hospitals—King's College Hospital and the National Hospital for the Paralysed and Epileptic. In both he successively filled the posts of Assistant Physician, Physician and Consulting Physician.

Ferrier was appointed to the staff of the National Hospital in 1880, and it is doubtful whether at any one time a group of such brilliant men have been associated together on the staff of one hospital, each in his own way adding a special lustre, and all combining for the advancement of neurology. It is not out of place to recall their names: Hughlings Jackson, by general consent

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"The Master," Thomas Buzzard, Bastian, Gowers, Ferrier and Horsley.

To his house physicians and those who were associated with him in his work Ferrier was loyal, generous in appreciation of their efforts, and kindly and helpful with his criticism. His teaching was characteristically practical and his exposition clear and concise.

He took a personal interest in every patient in his wards. His method of examination gave confidence, for he was quick to grasp the essential features and signs in each case and to make up his mind as to the diagnosis. He was specially helpful in the treatment and management of the various types of cases. He was ever ready to test any new drug or method of treatment, provided he was satisfied that by so doing he was not exposing the patient to any risk. He was always a psychologist, and it was to this, and his innate common sense, that his great success in the treatment of many difficult cases must be attributed. Ferrier was greatly interested in hypnotism, and although he did not practise it himself, he did not hesitate to employ it in cases where he thought it suitable.

Ferrier's work met with speedy recognition, and in 1876 he was elected a Fellow of the Royal Society and of the Royal College of Physicians, of which later he was a most distinguished and active member, and served as examiner, councillor, censor and senior censor.

He was one of the founders of *Brain* (1878), and was President of the Neurological Society (1894), and of the Medical Society of London (1913), in which year, as the *doyen* of British Neurology, he was President of the Section of Neuropathology at the International Medical Congress held in London.

During his career he was the recipient of many honours: He was made Laureate of the French Institute in 1878 and was awarded the Marshall Hall Prize in 1883, the Baly Medal in 1887, the Royal Medal of the Royal Society in 1890, the Cameron Prize in 1891, and the Moxon Medal in 1912. He was knighted in 1911, and received the Hon. Sc.D. of Cambridge in 1914 and the Hon. LL.D. of Birmingham in 1927.

When we review Ferrier's career and consider the part which he played in one of the greatest advances in medical science, we recognize at once that his inherent qualities were those essential for the successful fulfilment of the work he undertook. Gifted with a brilliant mind, a sound judgment, a unique power of concentration. By nature an enthusiast and full of energy, he was a man of dogged determination, and, in addition, possessed the ability

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to operate and to develop a sound surgical technique. Further, his training—the breadth of this general education and the trend of his special studies—was exactly what was needed to fit him for his life's work.

It is interesting to note how, step by step, Ferrier arrived at the position from which he was to start his great research; everything seemed to conspire to bring him to London, where he became associated with Hughlings Jackson. Hughlings Jackson and Ferrier were complementary to each other. Jackson—the thinker—had evolved, by reflection upon clinical observations he had made in cases of cerebral tumour, a theoretical conception of the functions of the motor cortex. The truth of Jackson's hypothesis could only be established by experimental investigation, and this inspired Ferrier to commence his researches. During their long association Ferrier and Jackson held each other in mutual esteem and affection. In dedicating his book, *The Functions of the Brain*, to Hughlings Jackson, Ferrier pays him this tribute: "To Dr. Hughlings Jackson, who, from the clinical and pathological standpoint, anticipated many of the more important results of recent experimental investigations into the functions of the cerebral hemispheres."

The publication of Jackson's theories in the 'sixties had already led Fritsch and Hitzig to undertake experimental investigation on the cerebral cortex. The results of their researches were published in 1870. They demonstrated the existence of certain centres in the brain which could be stimulated electrically, and their discovery of the electrical excitability of the brain furnished experimental physiologists with a new method by which to explore fresh fields. Ferrier fully realized the possibilities which the new method of experimental research instituted by Fritsch and Hitzig had opened up, and always acknowledged his indebtedness to them. He improved upon their method and technique, and in his experiments used the Faradic current. During the three years he was engaged on his research he succeeded in mapping out, not only cortical centres for movement, but also certain centres of the special senses.

It is difficult to appraise the value of Ferrier's work in terms of modern neurology, so much has been added to the foundations he laid. But it is abundantly clear (1) that Ferrier's work, which was essentially of a pioneer character, did of itself first place the localization of function in the brain on a sure footing; (2) that his correlation of clinical and experimental investigations supplied a basis upon which all neurologists could work; and (3) that to his discoveries and the success which attended his experimental operations we owe the conception and birth of cerebral surgery.

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Those who knew Ferrier will remember him as a short, slim, dapper man, with a keen, intelligent face and penetrating eyes. What impressed everyone was the alertness and the aliveness of the man. Gifted with an excellent memory, an exceptionally quick and acquisitive brain, he was always seeking after new information and fresh facts. He formed and held strong opinions, but was never overbearing, nor did he bring personal feelings into his controversies. He had a generous and kindly nature, and was full of human sympathy.

Apart from medicine Ferrier had many and varied interests. He was a classical scholar and a lover of art, especially pictures. He could talk on almost any subject, and had a peculiar faculty of finding out and remembering the special hobbies of all with whom he came in contact. He enjoyed his holidays, and for many years his chief recreation was sea-fishing, at which he was an expert. When he retired from active practice he seized the opportunity which his leisure gave him of gratifying his interest in many subjects, more especially those which were related to medicine and science. Ferrier never grew old, and although he died in his 86th year, he retained his sprightliness and mental vigour up to the onset of his last illness.

T. GRAINGER STEWART.

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LEONARDO BIANCHI.

1848–1927.

On April 13, 1927, there died in Rome, at the age of 80, one who had been an Honorary Member of the Association since 1907. The rare excellency of his contributions to neurology and psychiatry had already been recognized, for in 1896 the Association had elected him a Corresponding Member. Leonardo Bianchi, at the time of his death, had risen to be a Member of the Senate of the Kingdom of Italy, not from personal ambition, but because his presence was required for the solution of many social problems affecting deeply the welfare of his country. It was his high sense of public duty that turned his attention to politics as a possible means to an end, for he saw no other way of bringing about the reform of the legal and administrative side of psychiatry than doing himself what had been vainly expected for many years from the professional politicians.

In his country there was no lack of zeal for research and clinical psychiatry, as the many Italian psychiatric journals testified. The great names of the past had been succeeded by those of as brilliant a band of morphologists, pathologists, neurologists and psychiatrists as could be found anywhere. But the Italian Lunacy Law of 1904, inspired as it was mainly by a regard for the public safety, was having a strangling effect on the early treatment of the mentally afflicted and on the hospitalization of the great provincial asylums. Though several fine municipal psychiatric hospitals and State clinics had been established, the provision for recent cases was quite inadequate, and only dangerous and chronic cases could be admitted to the provincial asylums. An elaborate system of certification, with all its publicity delayed the admission of involuntary patients, and all voluntary patients were certified with the same formalities twenty-four hours after admission. The machinery for the discharge of patients also urgently needed revision, as did the system of inspecting mental institutions.

The Italian Parliament, in Bianchi's opinion, by their failure to ameliorate social conditions adverse to mental hygiene, had encouraged the occurrence of mental deficiency and psychopathic states. Nor was his knowledge of the needs of his country in these respects acquired indirectly: it was the outcome of his

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experience as an asylum physician and director of a neurological and psychiatric clinic, and of his close study of the social problems of the day as they affected his patients.

Though many great physicians and university professors have achieved eminence in the political world, there has been no other instance of a man being a university professor, an asylum superintendent and a minister of State at one and the same time.

Leonardo Bianchi, who achieved this, was born on April 5, 1848, at S. Bartolomeo in Galdo. He commenced his medical career at the University of Naples, where, in 1871, he graduated in medicine and surgery. In 1877 he became Privat Docent in Pathology, and was appointed in 1882 Assistant Physician to the Provincial Asylum of Naples.

His career as a teacher dates from 1888, when the University of Palermo made him Professor Extraordinary of Psychiatry a year after his appointment as Medical Director of Palermo Asylum.

In 1888 he commenced his famous research work on the physiology of the frontal lobes, and this and his already considerable contributions to clinical psychiatry led to his return, in 1890, by invitation, to Naples, where he was appointed Professor of Nervous and Mental Diseases in the Royal University and Superintendent of the Provincial Asylum. He took charge of the clinic at Naples and established research laboratories there.

His striking personality, his success as a teacher and his eloquence as a speaker soon brought him recognition as the great master of Italian neuropathology and psychiatry—an eminence he enjoyed for over a quarter of a century. In the political life of his country he was first a deputy, and in 1905 was appointed Secretary of State for Public Instruction. His elevation to the Senate followed, where he continued to press for the modernization of the legal and administrative sides of psychiatry with social reforms for the prevention of all forms of mental disease and degeneracy.

Bianchi very early interested himself in British psychiatry, and is said to have attended more than one meeting of the Association. Some years ago he contributed retrospects and articles to the *Journal of Mental Science*. His researches on the functions of the frontal lobes of the cerebral cortex, his observations on aphasia and his finding of pathogenic organisms in the blood of cases of acute delirium, were well known in this country. But it was not until his *Text-book on Psychiatry* was made available to English readers through its translation in 1906 by Dr. James H. Macdonald that the magnitude of his work, his genius and originality came to be generally appreciated.

His text-book was no mere exposition of the teachings of the day

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It was a critical synthesis of all the recent advances made in the subject by the anatomist, histologist, physiologist, bacteriologist, psychologist and sociologist. Every fact was closely scrutinized in the light of his own researches and extensive clinical experience before being included in what was easily the most comprehensive work hitherto published. It revealed a psychiatry which, though Italian, was distinctively Bianchi's. It differed in many respects from Tanzi's psychiatry, translated later by Drs. W. Ford-Robertson and T. C. Mackenzie. Tanzi inclined more to German teachings, with which Bianchi had little or no sympathy.

Bianchi began by laying down fundamental laws governing the evolution of the nervous system and its psychic manifestations, tracing such evolution from the most elementary to the most complex as found in man. Upon his plan of the structure and function of the human brain, supported by his clinical experience, he based his physio-pathological conceptions of mental disorder.

Although Bianchi was essentially a physiological psychologist, he had psychological conceptions of a high order and was by no means what is now known as a "behaviourist" or "objective psychologist." He had no sympathy with *a priori* notions as applied to the problems of mind and matter. In a letter to the writer of this notice he remarks that the hormic teaching of "purposive behaviour transfers us to the nebulous psychology of spiritualism, which is a reversion."

In psychology he must be categorized as a materialistic monist, though he frequently uses the expression "neural energy and its psychic equivalents," which is suggestive of psycho-neural parallelism. To refrain from the language of the latter doctrine is not easy in matters psychological, nor can one always avoid implying belief in "psycho-neural interaction." It would be tedious to be always saying "The neural or physical processes underly thought and feeling resulting in this or that behaviour," though it may express exactly what one means by mind acting on body. Bianchi, however, is quite clear on this matter if his text-book is carefully read. He never refers to mind influencing physical functioning except in his chapter on "Ætiology," and excludes psychogenic factors in the ætiology of mental disorders except as predisposing to the real causes, which are physiogenic.

Thus he teaches that the psychic function is something engrafted upon the great trunk of organic function and affected by all its modifications in health and disease. What is found in the development of the somatic organism is present also, and without substantial difference, in the evolution of the psychic organism or mind. Mind is absolutely dependent upon matter, and only reached

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through matter. Obviously Bianchi did not believe in the doctrine of the identity of mind and matter. Mind is a "something," but it arises from the functioning of the brain. In another place he says that intelligence is the consciousness of life, and is manifested through the wonderful mechanism of the nervous system.

This brings us to his beliefs in matters cosmological. He spoke as Maudsley and Huxley did of "life" and "nature." The world for him is not a dead world governed by mechanical or chemical laws. Nature is "beautiful," "generous," and "possessed of infinite resources." Life from the monad to man is a dynamism. "Psychic life commences with very simple and uncertain manifestations, and step by step through progressive assimilation of the forces of Nature it rises to the most potent realization of Nature itself in the forms of thought and consciousness." Huxley expressed similar views.

Bianchi teaches that it is the nervous system which changes cosmic energies into psychic equivalents, *i.e.*, *viâ* neural energy.

Nature to Bianchi was therefore something very powerful and very real. Nature endowed matter with life. Life was not necessarily all psychic—the cosmic forces needed the instrumentality of the nervous system for the evolution of the subjective.

To return to the publication of Bianchi's text-book. In the estimation of many (including that of the writer) Bianchi at once took a place side by side with Maudsley, Clouston and Kraepelin. True, his classification of mental disorders did not find, at that time, much support in this country, but the partial breakdown of Kraepelin's dogmatism on dementia præcox seems likely to bring to Bianchi's views the prominence they deserve. They have the advantage of a physio-pathological basis and suggest a fruitful field for further research. They are not antagonistic to the biogenic causality of Bleuler, and may prove to be its anatomical counterpart. Bianchi's approach to all the problems of psychiatry was essentially biological, which includes the sociological.

In 1922 Bianchi published his book on *The Mechanism of the Brain and the Functions of the Frontal Lobes*, which was based primarily upon the famous experimental researches on the cerebral cortex already stated as having been commenced in 1888. This book affords strong support to his teachings on the physio-pathology of mental disorders, in regard to which the relative degree of disturbance of the sensory and frontal areas of the cortex and the effects of hallucination of the special senses are of fundamental importance.

Bianchi wrote many papers, but few books. His text-book, now a classic, reached its third edition in 1924. It reveals

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his antagonism to Freudian doctrines and psycho-analysis. The former he regards as having no foundation, and the latter as a dangerous method of treatment.

Bianchi recognized with Maudsley and Laycock the unconscious working of the mind as the larger psychic field. The "unconscious" is not only the great store-house and workshop of the mind, but is capable of facing new situations by the synthesis of appropriate reactions.

Bianchi always subscribed to the modern view of mental disorders as syndromes, and regarded classification as a necessary evil. His sensory insanity includes many mental disorders regarded by others as clinical entities. He has to admit the clinical existence of manic-depressive insanity and dementia præcox, but is critical in regard to the hypotheses upon which they rest. In his opinion these syndromes only occupy a small area of the whole clinical field.

The last revision of his text-book synchronized with his relinquishment in 1923 of the chair in the University of Naples on reaching the age-limit of 75, when he was made Emeritus Professor. His retirement from active teaching did not lessen his activities, but gave him the opportunity of devoting more of his tireless energy to sociological problems, especially those of eugenics and mental hygiene. Indeed his last published work, in 1925, related to these subjects, and was entitled *Eugenics Igiene Mentale e Profilassi delle Malattie Nervose Mentali*, which still awaits translation into English.

In his farewell address to his students and others he reveals the true secret of his greatness. The subject was "Old Age." Youthful fire and enthusiasm are but preludes to the solidity, strength and experience of maturity and old age, and should not be wasted, but in a good measure preserved for the high purposes of civilization. The rules of psychic life in man are discipline, obedience and devotion to community welfare. His Deity was "Duty": "Let it be your altar and your law."

J. R. Lord.

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Part I.—Original Articles.

THE NINTH MAUDSLEY LECTURE: THE NEW PSYCHIATRY AND THE INFLUENCES WHICH ARE FORMING IT.

Delivered by Sir JOHN MACPHERSON, *C.B.*, M.D., F.R.C.P.E.,

Formerly Commissioner in Lunacy for Scotland, and Professor of Psychiatry in the University of Sydney, N.S.W.; Past-President and Hon. Member, Royal Medico-Psychological Association.

THE PRESENT POSITION OF PSYCHIATRY.

PSYCHIATRY in its literal sense is the medical treatment of mental disorders, which necessarily implies the scientific investigation of the nature and causes of these disorders. Psychiatry is therefore indissolubly linked with the medical and biological sciences, and participates not only in their solidarity, but also in their unrest, for every advance in these sciences intimately affects its outlook. In addition it has undergone—and is still undergoing—vicissitudes peculiar to itself which are unknown in other departments of medicine.

When, towards the close of the eighteenth century, men like Pinel in France and Tuke in this country rescued the insane from barbarous ill-usage, they at the same time liberated human thought from crude and primitive conceptions of insanity. As a consequence a remarkable awakening appeared in the nineteenth century which began with the clinical study of psychiatry. Pritchard in this country and Morel and Falret in France described delusional forms, Calmeil discovered general paralysis, Kahlbaum described katatonia, and Clouston described adolescent insanity. Immense advances were made by anatomists, physiologists and pathologists in the elucidation of the topography, the localization of function, and the minute anatomy of the brain.

THE ADVENT OF PSYCHO-PATHOLOGY.

With the close of the nineteenth century we witness the close of one phase of psychiatry, but not before Kraepelin had, by his invaluable contributions, fittingly completed the labours of his predecessors and contemporaries. Working on the bases laid down by Falret, Kahlbaum, Clouston, Magnan and many others, he clarified our views, increased our knowledge and built up a

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system of clinical psychiatry, the substance of which will endure whatever changes the future may have in store.

The advent of psycho-pathology marked the commencement of the twentieth century. It came unannounced, for its significance did not at first attract much attention. For many years previously the medical world had been interested in Charcot's studies of hysteria, but it was reserved for one of his pupils, Pierre Janet, to demonstrate that hysteria was a mental disorder, and that its varied phenomena could be interpreted in psychological terms. His well-known definition describes hysteria as a form of mental depression characterized by a contraction of the field of consciousness, and by a tendency to the dissociation from consciousness of those systems of ideas and sensations which constitute personality. Janet's contribution to psychiatry is the concept of dissociation—the basis of the new psychiatry.

In some respects Janet's definition of hysterical dissociation is not regarded as entirely satisfactory, for it implies a "splitting up" of consciousness and of personality. It is highly improbable that either the one or the other can be split up, for the cortical mechanism integrates as a single system, and so far as we know there is no exception to that rule. The vital process which we call consciousness is one thing; the outward expression of that process which we call behaviour is quite another thing. Behaviour may give the appearance of split consciousness because of changes in the integration of cortical processes, and in the same way double personality depends upon different integrations within the cortical mechanism at different times.

Bernard Hart has helpfully described dissociation as an "out of gear" relationship, and he has pointed out that much of the misunderstanding regarding it arises from conceiving it as containing a spatial element, whereas from its nature it can have none. If, therefore, we regard Janet's dissociation as conceptual and non-spatial, as a "changing of gears" and not a "splitting off," we obtain a truer idea of its meaning.

As a working hypothesis, dissociation is applicable to the whole field of morbid, mental and nervous phenomena. It explains equally fixed ideas, obsessions and delusions; the various symptoms of hysteria, morbid changes of personality, and the alternating states of elation and depression which occur in such mental disorders as the manic-depressive syndrome. As a permanent functional process it accounts for the mental condition of some, at least, of the chronic inmates of mental hospitals.

When I was a young assistant medical officer I witnessed, on separate occasions two striking incidents. The patients concerned

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were a man and a woman, both for many years resident in the hospital. The man was what is called a chronic maniac—restless and gesticulatory—the woman was a quiet, not very responsive dement. Both contracted pneumonia, and coincident with the rise in the temperature they became mentally changed, adjusted themselves properly to their surroundings, and showed the same appreciation of reality as if they had always lived in it. Unfortunately, and to the great disappointment of all concerned, they both relapsed into their former insane state shortly after the subsidence of the fever.

Dissociation is a comparatively new term, but fifty years ago a similar condition was described by Hughlings Jackson. He taught that all morbid nervous phenomena are due to two factors—a negative factor, consisting of loss of function at a higher level, and a positive factor consisting of over-function at a lower level. This, in different language, is dissociation.

The causes of dissociation resolve themselves into two co-operating groups, which may be termed the *causa causans* group, including the whole series of psychical and physical agencies with which we are familiar, and the *causa sine quâ non* group, which in the present state of our knowledge we can only refer to, generally, as the inherent instability of the cerebral mechanism. The present-day return to the study of diathesis, temperament and constitution may throw more light on this subject, the only serious contribution to which has been Shaw Bolton's researches into the depth of the layers of nerve-cells in various parts of the cortex.

The Freudian Hypotheses.

It is at the point we have now reached—the cause of dissociation—that Freud joined issue with orthodox psychiatry. He maintained that functional dissociation was caused by the conflict of opposing psychological forces, and that the resulting symptoms were due to attempts on the part of the organism to adapt itself to altered conditions. Superficially such a statement, apart from its phraseology, appears compatible with contemporary views. Upon it, however, he proceeded to erect a system of psychology which in a remarkably short period of time has captured, if not the assent, at any rate the attention of the civilized world. From this statement, also, he proceeded to formulate a number of concepts intended to explain the nature of these psychological forces, and the phenomenal facts of conscious processes and behaviour resulting from their activities. The two concepts which have attracted most attention and criticism are those of the "unconscious" and the "sexual libido."

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The Freudian theory and method are more firmly established than some people appear to believe, for they are unassailable by direct argument or dialectic attack. It is useless to attack the substance of the concepts, for the critic is met with the perfectly legitimate answer that they are not phenomenal facts, but conceptual formulæ constructed to explain observed facts, as the atomic theory and the law of gravity explain certain physical phenomena. It is equally futile to cast doubt on the facts observed, for these are only known to the individual psycho-analyst. If we venture to question the validity of the therapy, which is the justification of the system, we find ourselves on delicate ground, for our own therapeutics are, for the most part, empirical and indirect. We may, however, complain that we are deprived of information on the results of this specific method of treatment. In functional nervous and mental disorders the most serious feature is the tendency to relapse. Unless the Freudian method is able to check this tendency—and there is evidence that it does not do so in all cases—it possesses no advantage over the countless other methods which claim to cure individual attacks.

To say that the Freudian hypothesis is embarrassing to psychiatry is no more than the truth; to say that it is supplanting it is to exaggerate. It would be more correct to describe the present position as an *imperium in imperio*. The field of psychiatry is infinitely wider than that covered by the Freudian doctrines, and its relations with the medical and cognate sciences is too intimate to allow of the possibility of the new psychology superseding it.

If the twentieth century should prove as fertile in discoveries pertaining to the structure and functions of the nervous system as the nineteenth century has been, then assuredly the Freudian system will be absorbed by psychiatry, not, however, without leaving indelible marks upon it.

The Vital Functions of the Cortex.

We are being constantly reminded that it is the paucity of our knowledge of nervous structure and function which necessitates a psychological interpretation of morbid mental phenomena and a psychological therapeutic for functional nervous maladies. The reminder is irrelevant, for although both psychological interpretation and psycho-therapeutics have a place in psychiatry, they are powerless in furthering some of its chief aims, one of which is the investigation of the physical basis of mental disorders.

At the same time, while it is abundantly evident that such vital phenomena as consciousness and personality depend for their normal expression upon unimpaired cerebral *structure*, it is inconceivable

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to some of us that they can result from the synthesis of a series of cerebral states, for, as someone has remarked, "How can a series be aware of itself?"

Maudsley was among the first to recognize this antithesis and to attempt to reconcile it with the physical basis of mental processes. In *Body and Mind*, published nearly sixty years ago, the following passage occurs:

"It is strangely overlooked by many who write on this matter that the brain is not a dead instrument, but a living organ, with functions of a higher kind than those of any other bodily organ, insomuch as its organic nature and structure far surpass that of any other organ. What, then, are those functions if they are not mental? No one thinks it necessary to assume an immaterial liver behind the hepatic structure in order to account for its functions. But so far as the structure of nerve and the complex structure of the cerebral convolutions exceed in dignity the hepatic elements and structure, so far must the material functions of the brain exceed those of the liver."

For these and similar vitalistic opinions Maudsley was pilloried as a materialist; but he was no martyr, for he was not only able to defend himself, but, if need be, to carry the feud into the citadels of his opponents. He was a man in advance of his time—one of the galaxy of intellectuals which adorned the mid-Victorian period.

When we say that the brain is a living organ, we mean not that it is endowed with life as one quality among others, but that it is the material and visible symbol of life. Its physiological and psychical functions are manifestations of life, and its structure is patterned to subserve the performance of these functions. Whether or not we believe with Bergson that life is a cosmic force which, through the evolution of organic matter and of an ascending series of nervous systems, was in search of a form of freedom which it ultimately attained to in the human brain, we must believe that the more elaborate a nervous system is, the more perfect are its psychical reactions.

The cerebral cortex, then, is a vital mechanism, which, in the ordered performance of its functions of formulated expression and purposive action, is as meticulous as the mechanisms which control the cardiac rhythm, the temperature of the body or the amount of sugar in the blood. In virtue of the control which it exercises over lower nervous centres it is capable of adjusting the individual to most of the ordinary situations which arise in human experience. It operates both in time and in space. In time it occupies a hypothetical position between the past and the future, which we call the present. The experiences of the past have so moulded its reactions

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that the events of the future conform, more or less, to past experiences and the future is thus implicit in the past. In space it constantly receives sensory impressions and physical influences from its environment. These impressions and influences are the crude pabulum on which it operates, and are necessary for its psychical efficiency.

The Foundations of an Objective Psychology.

Some recent investigations into disease affecting the higher cortical functions and into the physiology of the cortex have resulted in a probability that mental processes can be approached objectively on the physical plane in the same way as physiological processes are approached. These investigations concern three of the principal cortical functions, namely, the psycho-motor, the psycho-sensory and the psycho-inhibitive.

The psycho-motor and psycho-sensory functions of the cortex are co-extensive and co-operative in the initiation and co-ordination of formulated expression and purposive action. They also form, together, the sphere of acquired experience, as, for example, in the art of writing, which is laboriously acquired, and which depends upon two elements—an ideational element in the form of symbols and a psycho-motor element.

Apraxia, or disorder of purposive action, results from definite organic lesions in the cortex, which separate the psycho-motor function from either the psycho-sensory or the motor (Rolandic) area of the cortex.

Kinnier Wilson defines apraxia as "inability to perform certain movements or movement-complexes, with conservation of motility, sensation and co-ordination." This definition excludes ordinary motor and sensory paralysis, whether cortical or subcortical, and only includes lesions—organic or functional—which affect the psycho-motor or psycho-sensory areas or their connections. Following Liepmann, from whose researches our knowledge of the subject is largely derived, the forms of apraxia may be classified somewhat as follows:

(1) Motor apraxia, in which there is inability to initiate certain voluntary movements or movement-complexes.

(2) Ideo-motor apraxia, in which there is dissociation of certain ideational elements concerned in action. One of its principal forms is perseveration, in which an action already effected repeats itself whenever another action is intended; or when an action is endlessly repeated or a posture is continuously maintained without power to inhibit or alter it. We are familiar with these phenomena in the

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stereotypies, verbigerations and attitudinizing of the subjects of dementia præcox.

(3) Ideational or amnesic apraxia, in which the subject has lost the memory of certain ideas which precede action. Agnosia, in which there is conservation of sensation with a loss of recognition, is a form of ideational apraxia.

The lesions which cause apraxia are numerous—often so numerous as to obscure localization—yet a sufficient number of cases are on record in which the lesions are so definite as to justify the following conclusions:

In pure motor apraxia the lesions are located (in right-handed people) in the left frontal lobe or in the anterior part of the corpus callosum. In ideo-motor and ideational apraxia the lesions are found in the supra-marginal gyrus or the angular gyrus, or in the association area of the temporal lobe.

What has been said of apraxia applies equally to aphasia, which is apraxia of the speech function. Within the last twenty years Marie and Head have revolutionized earlier conceptions of aphasia. Marie sweeps away, as by one stroke, the views of his predecessors, including Broca and Wernicke. He admits of no distinction between motor and sensory aphasia, denies the existence of centres for visual, auditory, or kinæsthetic word images, or the possibility of word images being stored in the cortex. For him there is but one centre, diffusely localized in the temporo-parietal region, which is a region of intelligence specialized for language—not a centre for sensory images. He insists that aphasia is essentially an intellectual defect, entailing not only defects of speech, but of general intelligence as well.

Head's work is equally drastic. For him also, aphasia is a mental disorder with disturbance not only of the psychical function of speech, but also of general intelligence. In speech, as in other cortical activities, the cortex functions as a whole. Certain visual, auditory and motor centres, formerly regarded as speech centres, are relegated to the position of integrating foci, lesions of which affect not only speech but the whole cerebral autonomy. The terms "aphasia," "agraphia," "alexia," etc., are not clinical entities, but symptom-complexes produced by the dissociation of definite systems of mental processes, which he terms "symbolic thinking" and "expression."

Von Monakow has pointed out the important fact that there are temporary or functional forms of apraxia and of aphasia which arise as follows: The cortex functions by means of its vital energy, which, like the motion of a humming-top, keeps its various positive and negative activities in uniform equilibrium. This vital neural

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energy is common to all nervous function—to the cardiac and respiratory centres in the medulla as well as to the cortex. It has been recognized by all the more critical writers on neurology, and Head suggests that the name "vigilance" should be applied to it. Any agency which lowers this vital energy disturbs cortical equilibrium and produces dissociation of various kinds. When, for example, cerebral hæmorrhage occurs, the whole nervous system is affected; a partial restoration of function may occur, but for a variable time intelligence and voluntary control are enfeebled, during which apraxia or aphasia may appear. When, in favourable cases, a new equilibrium is gradually established, these symptoms disappear, unless any structural lesion of an integrating focus causes them to become permanent.

Although the existence of cortical inhibition had, of necessity, to be postulated both in clinical medicine and subjective psychology, Pavlov, through his remarkable experiments on the conditioned reflex, has succeeded in demonstrating it, not as an hypothesis, but in actual operation. We learn from his researches that cortical inhibition (which is physiologically a state of rest) has a tendency to irradiate from its point of initiation, and, in doing so, by a process of induction, to cause excitation in neighbouring areas, which excitation arrests the spread of inhibition. From such a point of view we may visualize the cortex as a mosaic of inhibitory and excitatory areas, within which the dynamic activities of irradiation and induction constantly act and react in endless variety, the one against the other. We also learn the manner in which certain changes in the cortical equilibrium of the dog may result in natural sleep, in a kind of hypnosis or in acute mental perturbation.

Sooner or later, in the course of prolonged experiments, the effect of the conditioned reflex tended to fail, in spite of reinforcement, inhibition spread over the cortex and the animals became drowsy. Sleep also occurred when the time elapsing between the conditioned and the unconditioned reflexes was long delayed, when the stimuli were neutral or monotonous, or when they were strong and frequent. These facts point to the conclusion that cortical inhibition and sleep are one and the same process.

In a small number of dogs, instead of sleep, a hypnotic phase of general cortical inhibition was observed. The animals maintained, indefinitely, an alert but motionless posture, eyes widely open, head up, and limbs extended. On passive movement of a limb it remained in the position in which it was placed and the plantar flexor reflexes assumed the character of contractures.

Pavlov describes the temperament and character of the type of dog developing pathological mental symptoms. An excitable and

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an inhibiting type stand at either end of the series, and these types tend to develop symptoms corresponding, respectively, to the maniacal and melancholic phases of the manic-depressive syndrome. Two conditions were found to produce these mental disturbances in predisposed dogs—an unusually acute clashing of excitatory and inhibitory processes and the influence of strong and extraordinary stimuli. In one dog the precipitating cause of a crisis appears to have been the attempt to discriminate a luminous circle, used as a signal for the administration of food, from frequently recurring and frequently altered elliptical modifications of this circle.

Among the results of Pavlov's experiments, the only points which specially concern us here are the hypnotic symptoms which are clearly allied to hysteria, and the pathological mental perturbations which resemble phases of the manic-depressive syndrome.

Hysteria is a functional form of apraxia exhibiting, like the latter, such symptom-complexes as agnosia, perseveration and incapacity for retaining impressions. Its cardinal clinical symptoms are amnesia, psycho-sensory and psycho-motor disorders. Amnesia, however unobtrusive, is always present, and is invariably accompanied by anæsthesia in one or other of its varied and intermittent forms, and in the same manner by contraction of the visual fields.

It is important to remember that these symptoms are never absolute, for sensation is present in the anæsthetic limb though not subjectively realized; contractures relax during sleep, and notwithstanding extreme contraction of the fields of vision, the patients are able to avoid accidental collision with objects in their surroundings.

These paradoxical phenomena obviously point to inhibition of function in the psycho-sensory and psycho-motor centres with automatic functioning of the corresponding receptor and effector centres of the cortical projection system. They resemble the behaviour of decerebrate animals, of which we are told that if the observer did not know that the brain had been removed he would believe them to be conscious.

That the depressed and exalted phases of the manic-depressive syndrome depend, respectively, upon states of cortical inhibition and states of cortical excitation has long been believed. We owe, however, a more definite knowledge of the mechanism of these conditions to the researches of Pavlov. As far as it is permissible to compare cortical processes in the dog with those of man, we may infer that the finely-balanced mosaic of cortical inhibitions and excitations with their dynamic interplay of irradiation and induction is replaced by coarser, badly differentiated areas of

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inhibition in the depressed phase and by larger, badly inhibited areas of excitation in the exalted phase. Once the cortical equilibrium is thus profoundly upset the effect does not pass away immediately, but may last for weeks and months, as we well know from our own experience, and as Pavlov discovered from his observations on somewhat analogous conditions in dogs.

The foregoing remarks indicate the lines along which medical science is slowly advancing towards the solution of the problem of dissociation. The symptoms which we associate with the various forms of mental disorder are the outward expression of disturbances of cortical equilibrium. These symptoms tend to assume definite pathological complexes or syndromes, depending partly upon the nature of the cortical lesion or disturbance, and partly upon the constitutional temperament of the individual.

The clinical and pathological researches of Liepmann, Head, Marie and von Monakow and Pavlov's physiological experiments have broken down the artificial distinction which has hitherto separated physiological from psychical processes and reactions. They have also succeeded in laying the foundation of an objective psychology, the future achievements of which it is impossible to foretell.

Incidentally they throw a new light on existing conceptions of mental disorders, and move us to consider to what extent the present methods of dealing with the social and medical aspects of these disorders are either adequate or justifiable.

The Intervention of the State.

From many reliable sources we learn that up till the middle of last century the neglect of the insane in Great Britain was such as to leave the State no alternative to taking the responsibility for their care upon itself. It did this through the instrumentality of bureaucracies and of local authorities, both functioning under rigid legislative regulations. This method was, probably, the best that could be devised, and in the attainment of its object—the well-being of the insane—it has been surpassingly successful.

So far, however, as the advancement of psychiatry is concerned, this beneficent reform was attended by certain disadvantages. It called for the appointment of medical men to administer the system, but their number was so restricted as to be barely compatible with administrative efficiency, and their conspicuous faithfulness in the performance of the duties imposed upon them has caused psychiatry to suffer both in its literature and in its clinical experience. It created an artificial class of certified persons who have come to be regarded as the only mentally disordered portion

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of the community. The instinctive aversion in the public mind to morbidity of certain kinds has expressed itself in an aloofness from this class, a dislike of the system under which they exist, and a distrust of the powers of certification and detention conferred upon the medical profession.

These prejudices are not confined to any class of the community, but may be discerned in the legislature, the law courts and the press. They are, probably, composite in character, but the fundamental error underlying them is that the certified insane alone are mentally disordered. A little consideration should convince anyone that as the certified insane are being constantly recruited from the general population, the latter must contain a large amount of latent and unrecognized mental disorder.

There are no means at our disposal whereby the mental efficiency (or inefficiency) of a community can be statistically estimated, but there are several significant points of view from which the position might be usefully regarded, one of which may be mentioned.

There is no single symptom in the whole range of mental disorders that is not represented in the mental processes of normal men and women. We are dissociated from our surroundings when we are engaged in any absorbing occupation; we are dissociated when we forget, for forgetting is as necessary as remembering; we are dissociated when we fall asleep, and when we dream we are insane. As we are neither omniscient nor able to see into the future we are credulous, superstitious and suspicious, and we develop many harmless delusions, the mechanism of which is the same as that of the delusions of the insane. We are only saved from insanity because our more or less efficient cortical mechanisms are able to correct our mental refractions and to inhibit our tendencies to abnormal behaviour.

It is abnormal behaviour (which is the outward expression of cortical dissociation) that determines the necessity or otherwise of certification. The person who certifies ought to be able to do so, not on the ground of abnormal behaviour alone, but also upon the nature and the cause of the cortical dissociation which gives rise to it. It is for this reason that medical education and medical experience are required for certification, and it is for the same reason that the statutory appointment of a layman to revise the opinion of a medical certifier can only be regarded as a device to allay public suspicion.

If proof were wanted of the prevalence of this public suspicion it may be found in the provisions of the Lunacy Act of 1890, which show less concern for the welfare of the insane than for the protection of the sane.

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In any human system of the dimensions of the lunacy administration of the United Kingdom it would be foolish to assert that mistakes and abuses cannot occur; but they must be extraordinarily few in number. In my own experience, which has been long and varied, I have never met with a single instance of the deliberate abuse of certification or detention. On the contrary I have often had cause to deplore the hardship imposed upon patients and their distressed relatives through the natural reluctance of medical men to exercise their powers under the Acts.

The same prejudices which influenced the framers of the Act of 1890 can be discerned in the recent group of litigations in the English law courts. They appear not so much in the motives which actuated the litigants, or in the legal machinery, as in the atmosphere of vindictiveness which enveloped the proceedings, both inside and outside the law courts.

I happened to be in a distant part of the Empire at the time, but as the reports of these cases were published in the press throughout the English-speaking world, it was possible to follow their main features day by day and to observe their effect upon independent and detached individuals.

I noticed that the reports were received with an amused surprise —amusement that serious courts of justice should have deliberated for weeks over issues which appeared to present no great problems to the man in the street; surprise that the Mother of Parliaments should not have devised less clamorous methods for the adjustment of disputes involving such pathetic and morbid details.

At the same time we must not forget that if there were no Lunacy Acts it would still be necessary to restrain some of the insane, and that any person who felt aggrieved by such restraint would have the right to appeal to the Crown for redress. In such suppositious circumstances it is certain that very few actions at law would be raised, for whatever the source of the existing suspicions in the public mind, they are beyond doubt aggravated rather than allayed by the trend of modern legislation.

The contention that prejudices of this kind thrive on what they are fed on is borne out by the public feeling in countries where there is a comparative absence of suggestive and safeguarding enactments in lunacy legislation.

The people of Australia, 98% of whom are of British descent, have the firm determination to solve their own problems unhampered by many of the traditions which adhere to legislation in the Mother Country. Consequently the lunacy legislation of New South Wales (the original State of the Commonwealth) is simple and elastic in its administration. It is, nevertheless, as efficient as that of any

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other country, and in its freedom from superfluous legal restrictions possesses many advantages. The formalities required for admission to mental hospitals are of the simplest description, consisting, for the most part, either of voluntary entry or of admission on the written request of a relative, accompanied by two medical certificates. The relative who signs the request must do so in the presence of a justice of the peace, but the function of the justice ends with that formality.

In the same State it has recently been arranged that every large general hospital should make provision for the accommodation and treatment of patients suffering from mental and nervous disorders. This was accomplished without legislative enactment, and with the co-operation and assistance of the Government Department of Mental Hospitals. Patients admitted to these general hospitals are not certified, nor is any judicial authority concerned with their admission or discharge. The City of Sydney possesses a modern, well-equipped psychopathic hospital, with 120 beds, admission to and egress from which is as free as in an ordinary general hospital.

Napoleon, when at the height of his power, remarked upon the impotence of force to organize anything, and added, "There are only two powers in the world, the spirit and the sword; in the long run the sword will always be conquered by the spirit." The scientific spirit behind psychiatry cannot be defined in Acts of Parliament. It tends to evade legal restraints and to break through official regulations in many directions, some of which are undesirable. It ought, therefore, to be guided into those channels which best subserve the well-being of the patients, the growth of scientific knowledge and the trend of healthy public sentiment.

There may be other means of attaining such an end, but the obvious means is the admission of all occurring cases of mental disorder to public hospitals without certification or judicial intervention. The great majority of patients and their relatives would welcome such an opportunity, and the patients, once in hospital, would remain there. There is, at present, sufficient legal machinery to deal with the small recalcitrant minority who would refuse to enter a hospital or to remain in it. As to the disposal of these uncertified inmates, they should remain under observation and treatment until recovery, or until a reasonable and liberal period of observation had shown that there was no prospect of early recovery or of any recovery.

In addition to existing mental hospitals, advantage should be taken of every opportunity of utilizing the many scientific facilities of general hospitals, by providing accommodation for the treatment

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of mental disorders in their vicinity. Such a provision, on an enlarged scale, is especially desirable in every centre of medical education.

It is unquestionably the right of the State to guard the personal liberty of its citizens, but it is our mission to urge that our patients should have at least the opportunity of the same informal access to treatment which is accorded to patients suffering from other diseases. We believe that such an opportunity would rob mental disorders of some of the terror and opprobrium which attach to them. We also believe that it would bring psychiatry into closer relations with general medicine, whereby its scientific scope would be widened and its therapeutic efficiency improved.

I close with a reference to the vexed question of therapeutics, in which is illustrated both the slow methods of science and the unequivocal and verifiable results into which they ultimately resolve themselves.

General paralysis as a clinical entity was discovered by Calmeil just over 100 years ago. There followed later in ordered sequence the discovery of the spirochæte of syphilis by Schaudinn, of the blood test for syphilis by Wassermann, of the destruction of the organism in the living body by the method of Ehrlich, and of the presence of the spirochæte in the brain-tissue by Noguchi, and, lastly, the infection of the subject of general paralysis with malaria as a therapeutic measure by Wagner von Jauregg. This therapeutic method, though disappointing in some of its results, is significant as indicating a means of restoring cortical equilibrium which has been disordered by disease. If this method is not itself perfected, it will certainly be replaced in the near future by some similar and more effective agency.

I have referred to my own observations of the effect of an accidental pneumonic infection in temporarily restoring cortical equilibrium in two of the subjects of chronic mental disorder. Some of my colleagues in this audience must have had similar experiences, for these occurrences, though rare, are not wholly unknown.

We may look forward confidently to a time when physical science will have discovered means for the removal of cortical dissociation more permanent in their results and less dangerous to life than the rougher methods of Nature.

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THE CORRELATION OF CLINICAL AND PATHOLOGICAL FINDINGS IN TWO CASES OF PARKINSONIANISM.*

By A. Pool, M.B., Ch.B.,
Assistant Medical Officer, Rainhill Mental Hospital; late Pathologist to the Royal Southern Hospital, Liverpool;
AND
G. A. Watson, M.B.,
Pathologist, Lancashire County Mental Hospitals.

We are all familar with the clinical picture of a case of epidemic encephalitis of the Parkinsonian type: the fixed flexion attitude, festinating gait, mask-like face and general slowing of all voluntary movement. What is the explanatory pathology of each and all of these physical signs?

This joint paper is an attempt to elucidate in detail the pathology of the two cases under consideration, correlating the clinical picture with the pathological findings and putting forward a few suggestions and possible explanations of some of the changes.

The paper is divided into three sections:

(*a*) Clinical notes.
(*b*) Detailed pathological report.
(*c*) Correlation of physical signs and pathology.

(*a*) Clinical Notes.

The first case was that of a male, C. H—, æt. 28, diagnosed on admission as suffering from dementia præcox with high-grade imbecility, while the second case was a male, M. McC—, æt. 42, admitted as a case of melancholia, the symptoms of which persisted until shortly before death.

In neither case was there any history of an acute febrile illness, and it was only after a residence of months in the hospital that the symptoms and signs of encephalitis made their appearance.

Both cases showed the typical attitude and appearance of "Parkinsonianism" with sialorrhœa and persistent increase of the pulse-rate, while in addition the younger case had a bilateral extensor plantar reflex and the older man showed absence of pupillary response to accommodation.

(*b*) Pathological Report.

Although no part of the nervous system examined can be considered normal, yet the greatest morbid changes are found in the

* Abstract of a paper read at a Divisional Clinical Meeting held at Rainhill Mental Hospital, May 2, 1928.

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crura, pons, medulla and basal ganglia, and least in the cerebral cortex (with the exception of a well-marked lesion of the Betz cells).

Further, although there are some differences in detail in the pathological findings in the two cases, yet these are generally similar and may be briefly summarized as follows:

(1) *The cerebral cortex.*—From the examination of various regions it appears obvious that the first patient was a mental defective, though not of low grade, and was probably suffering from dementia præcox, whilst the second patient was of at least average intelligence and did not suffer from any marked degree of dementia.

There is a certain amount of chronic thickening of the membranes, but no evidence (either here or in the nervous tissue) of acute inflammatory reaction, past or present.

The most striking lesion of the cerebral cortex is seen in the Betz cells, practically all of these examined being affected, but in a different way, in the two cases. In the first case the cells are more or less shrunken, often vacuolated, with irregularly swollen and fragmented dendrites and a small, darkly staining nucleus, usually centrally placed. There is well-marked satellitosis. In the second case the change closely resembles that seen in "central neuritis," with swelling of the cell (body and nucleus) and marked eccentricity of the latter, but without satellitosis. The amount of "Marchi" degeneration of the nerve-fibres in the precentral region is less than might have been expected from the condition of the Betz cells, as also are the number of areas of chronic fibre degeneration. Reference to the condition of the blood-vessels, etc., of the nervous system as a whole will be made later.

(2) *Basal ganglia.*—As regards the ventricular ependyma, whilst there is no general proliferation, yet there are, in Case 2, several local streaks of ependymal cells penetrating a long distance into the nervous substance.

The *corpus striatum* shows a gross degeneration of all types of nerve cells, especially in Case 2. The larger are mostly reduced to fragments of ragged cytoplasm and nucleus, while the majority of the smaller ones are barely recognizable as nerve-cells. The putamen of the lenticular nucleus is rather more affected than the pallidum in Case 2; the reverse is true of Case 1. There is marked generalized satellitosis. Numerous scattered areas of nerve-fibre atrophy are seen in all parts, and in various stages, but these are particularly prominent in the internal capsule.

The changes in the *optic thalamus* on the whole are much less pronounced than in the corpus striatum.

(3) *Crus cerebri.*—In the *substantia nigra* very few cells approaching to normality are seen. Most have entirely disappeared as

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functioning cells, their former stations being merely represented by irregular, broken-up masses of pigment. Although numerous round-cells are present, these bear no definite relationship to the disintegrated nerve-cells.

In the *nucleus ruber*, although occasional individual cells appear fairly normal, most show chronic degeneration, the dendrites being swollen, with ragged edges and often fragmented. The number of small round-cells seen is extraordinary, especially in Case 1, eight, ten, or even up to twenty being present in satellite relation to one nerve-cell.

The *tegmentum* shows generalized degeneration of nerve-cells, though much less pronounced than in the substantia nigra and nucleus ruber.

In the *crusta* there are numerous scattered areas of nerve-fibre atrophy seen in all parts and in all stages, but chiefly affecting the middle third or so in Case 1 and the inner two-thirds in Case 2.

(4) *Pons and medulla.*—In the upper part of the pons there is marked proliferation of the aqueductal ependyma extending into the subjacent nervous tissue. There is gross degeneration of the nerve-cells of the raphe and to a much lesser degree of those of the tegmentum. Numerous scattered areas of nerve-fibre atrophy are seen in all parts, including the cerebellar peduncles and the pyramidal bundles.

The cells of origin of the third and fourth nerves in Case 1 are practically normal. Owing to an unfortunate accident these nuclei were missing in the sections obtained from Case 2, but the third nerves themselves showed definite areas of patchy sclerosis both before and after emergence.

While the cells of origin of the fifth nerve are fairly normal, those of the sixth to the twelfth inclusive are grossly degenerated.

(5) *Spinal cord.*—The cervical region only was examined, and here the most noteworthy change is degeneration of some, though not all, of the anterior cornual cells.

(6) *The cerebellar cortex.*—A point of importance is that a large number of Purkinjë cells have undergone atrophy in the absence of any inflammatory reaction.

(7) *Extra-neuronic changes.*—In the cornu ammonis in Case 1 some blood-crystals are seen—an indication of an old hæmorrhage—and in both cases there are a number of recent small hæmorrhages, in various parts, which must be regarded as terminal and as having no bearing on the symptomatology.

Although there is, in places, some peri-vascular glial proliferation (*e.g.*, in the red nuclei), there is no " cuffing " of vessels, such as is seen in certain acute inflammatory processes, nor is there any

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polymorphonuclear leucocyte exudation into the tissues, nor yet any large phagocytic cells. Numbers of "rod" cells are seen in parts, but there is no amœboid glial proliferation. The presence of large numbers of round-cells, especially in Case 1, has already been alluded to, and the satellite relation of these to the nerve-cells, particularly in the red nuclei, has been noted.

There is no pathological evidence of any acute inflammatory process having taken place at any time. The changes are essentially those of a chronic degenerative nature combined with a low type of inflammatory reaction.

(*c*) Correlation of Physical Signs and Pathology.

It has already been noted that the general pathological appearance of the cortex in Case 1 confirmed the clinical diagnosis of high-grade imbecility with dementia præcox.

The general clinical features, summed up in the term "Parkinsonianism," common to both cases and diagnostic of the condition, are represented pathologically by the widespread changes in the red nucleus, substantia nigra and associated parts of the central nervous system. How does this destructive lesion bring about this plastic generalized hypertonus and fixed flexion attitude? We believe it is due to the release of a primitive postural reflex (such as determines the fœtal position of flexion and the anthropoid habitus).

The experimental work of Hunter and Royle furnishes us with the best explanation of the phenomena here described. Hunter performed unilateral removal of the corpus striatum in birds and produced a diffuse muscular rigidity of the corresponding wing, exactly similar to the type of muscular hypertonus occurring in man in the condition called "Parkinsonianism." This and other experimental work has been elaborated to formulate what has been described as a "dualistic theory of muscular tonus."

Tonus we can consider as being composed of two distinct elements:

(*a*) Contractile tone subserved by large striped muscle-fibres and innervated by somatic nerves.

(*b*) Plastic or postural tone subserved by smaller striped muscle-fibres and innervated by post-ganglionic sympathetic nerves accompanying the somatic nerves.

Now we know that contractile tone is controlled and inhibited by the pyramidal tracts and motor cortex. Plastic or postural tone is controlled and inhibited by the rubro-spinal tract and the centres in the crus cerebri and basal ganglia. If these latter (red nucleus, substantia nigra and basal ganglia) are diseased or degenerated, cerebral control over the lower pre-spinal sympathetic

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reflex arc is removed, and so we get manifestations of continuous sympathetic overaction, *e.g.*, sialorrhœa, increased frequency of the heart-rate and generalized vaso-constriction. In addition there is a point of bio-chemical interest which demands explanation, *viz.*, the fact that in practically all cases of encephalitis there is a slight persistent hyperglycæmia of blood and cerebro-spinal fluid.

Here let us refer to a fragment of physiological history. One of the pioneers in the elucidation of the problem of glycosuria was Claude Bernard, whose production of experimental glycosuria by puncture of the floor of the fourth ventricle has become a classic. The explanations of the production of experimental puncture glycosuria and that of epidemic encephalitis are one and the same. In both types we have lesions of the brain-stem, the one traumatic and the other degenerative, which sever the paths of communication between the basal ganglia and crural centres and the lower para-sympathetic (autonomic) reflex arc, resulting in a removal of cerebral inhibition and an overaction of the sympathetic nerves regulating the output of glycogen from the liver. In support of this contention we would cite the control experiment in which the glycogenetic nerve-fibres supplying the liver are cut prior to puncturing the floor of the fourth ventricle, in which case no glycosuria results.

Finally the condition of the reflexes and their pathological equivalents require attention.

Case 1 showed no alteration in the pupillary responses, whereas Case 2 showed a sluggish reaction to light and complete absence of response to accommodation. Pathologically we found that the third nucleus of Case 1 was normal, while the fibres of the third nerve in Case 2 showed advanced sclerosis.

The only other reflex of note was the plantar response in Case 1, labelled as ambiguous extensor. This latter observation was almost certainly correct, and is endorsed by the advanced degeneration of the Betz cells found in this case.

In conclusion we wish to affirm that as far as the clinical history and pathological findings are concerned, we can find no evidence of any acute inflammatory process having occurred at any time, and we consider these cases to be examples of a chronic progressive encephalitis rather than the sequelæ of an acute illness. In other words, to apply the term "post-encephalitic" to these and similar cases is in our opinion a misnomer, and we suggest the adoption of the term " chronic progressive encephalitis."

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THE HISTOPATHOLOGY OF THE PARKINSONIAN SYNDROME FOLLOWING ENCEPHALITIS LETHARGICA.

By HELEN S. E. MURRAY, M.B., Ch.B.Edin.,
Assistant Medical Officer, County Mental Hospital, Whittingham, Preston.

THIS sequel of encephalitis lethargica has attracted much attention on account of its great frequency. It was found in 70 out of 129 cases studied by Mme. Lévy (1). In the earlier pathological studies of the syndrome attention was focussed chiefly on the mid-brain; recent researches have proved that the changes in the nervous system are more widespread than were at first apparent.

In this case the areas examined in each hemisphere were: The frontal, precentral, post-central, temporal, calcarine and hippocampal, the corpus striatum, thalamus and hypothalamus. The whole of the mid-brain, pons and medulla were cut into blocks. The spinal cord was not removed. The stains used were toluidin blue, bleu de lyon, cresyl violet, iron-alum and eosin, and Scharlach R.

CLINICAL NOTES.

History.—In March, 1923, the patient, a weaver, had an attack of "influenza." There were periodic attacks of vomiting. She became very sleepy and was never out of bed. No squint was observed, but she lost the power of the right arm. Shortly afterwards a rigidity was observed which first appeared in the hands and arms, then the neck became very stiff. Increased salivation was observed. On admission here on September 8, 1925, she held herself absolutely stiff and had a vacant stare. She would gaze fixedly at one object for hours. She refused all food and had to be forcibly fed. She was unable to wash or dress herself. Perspiration was marked, the right side of the face perspiring more freely than the left. Drooling was constant. Her gait was staggering and uncertain.

Physical examination.—The head, ears, nose and throat presented no abnormalities. The lungs and abdomen were negative. There was a moderate degree of arterio-sclerosis. The pupils were unequal and irregular; the left reacted normally, the right only on accommodation. The consensual reaction was absent on the right side and sluggish on the left. The cilio-spinal reflex was negative.

Tendon reflexes were brisk on both sides, but more markedly so on the right, where there was both patellar and ankle clonus. The plantar response was extensor in type on the right side but doubtful on the left. The abdominal and epigastric reflexes were increased on the right side. Rombergism was present and Stellwag's sign was positive. There was coarse tremor of both hands, generalized rigidity of the biceps, and inability to flex the arms beyond a right angle.

Laboratory examination.—The urine showed a trace of albumen and a few pus and epithelial cells, but no other abnormalities. The Wassermann reaction was

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negative in the blood and cerebro-spinal fluid. The cerebro-spinal fluid was clear, not under increased pressure, and showed sugar ·07%, cells 2·6, no globulin, and a colloidal gold curve of $0\frac{1}{0}$ 1100000.

Subsequent course.—She grew steadily and progressively worse. She became faulty in her habits and totally dependent. Swallowing became difficult. Distinct pulmonary symptoms developed, and broncho-pneumonia set in, followed by gangrene of both lungs. She died on November 4, 1926, three years and eight months after the onset of her illness.

Pathological Report.

External.—The brain showed no definite cortical atrophy. Beyond some thickening of the pia-arachnoid, no abnormalities were noted.

Microscopic examination.—Definite changes were found in the cortex. The cell changes were slight. They were shrunken in places, showed shadow formation, and there was evidence of chromatolysis. The changed cells were found amongst the normal cells in all the layers, but were most in evidence in the deeper layers of the frontal and temporal lobes. Mild satellitosis was observed in the deeper layers. There were, in many places, small perivascular infiltrations (lymphocytes and plasma-cells). These infiltrations were less marked in the parietal cortex. In the temporal lobes numerous amyloid bodies were scattered over the cortical and subcortical areas. There were no calcareous deposits in the cortex. There was a slight increase in the fat content.

Caudate nucleus.—The large ganglion cells of the caudate nucleus showed definite changes. Their bodies were pale, appearing as mere shadows in places. The nuclei were poor in chromatin and eccentric, and in a large number of cells no nucleus was visible. Similar changes were observed in the small cells. There was a slight increase of glia-cells and fibrils. The blood-vessels were prominent, and there was "cuffing" of some of the smaller vessels, with evidence of small hæmorrhages.

Thalamus and putamen.—The large ganglion cells of the optic thalamus were swollen in places, in others shrunken and irregular, and frequently in a state of chromatolysis. The small ganglion cells showed similar changes. The parenchyma was invaded with "gitter"-cells, which formed clumps in areas. There was evidence of excessive vascularization. The adventitial and endothelial cells of some blood-vessels were markedly hypertrophied. Small perivascular infiltrations (lymphocytes and plasma-cells) were visible here and there. Lipoids were present in large quantities in the vascular and perivascular spaces of the putamen.

Nucleus ruber.—The nerve-cells were greatly degenerated, especially in the area magnocellularis. Many of the cells had lost their shape, and were irregular in outline, while others showed shrinking

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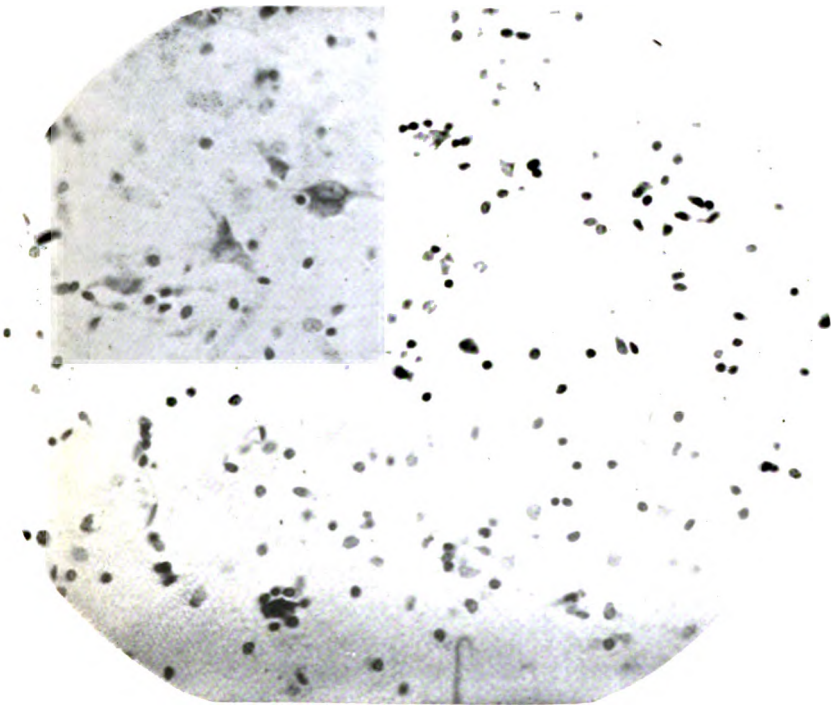

Nucleus ruber, showing cellular degeneration and invasion of parenchyma with cells—glia cells and polyblasts.

To illustrate paper on "The Histopathology of the Parkinsonian Syndrome following Encephalitis Lethargica," by Dr. HELEN S. E. MURRAY.

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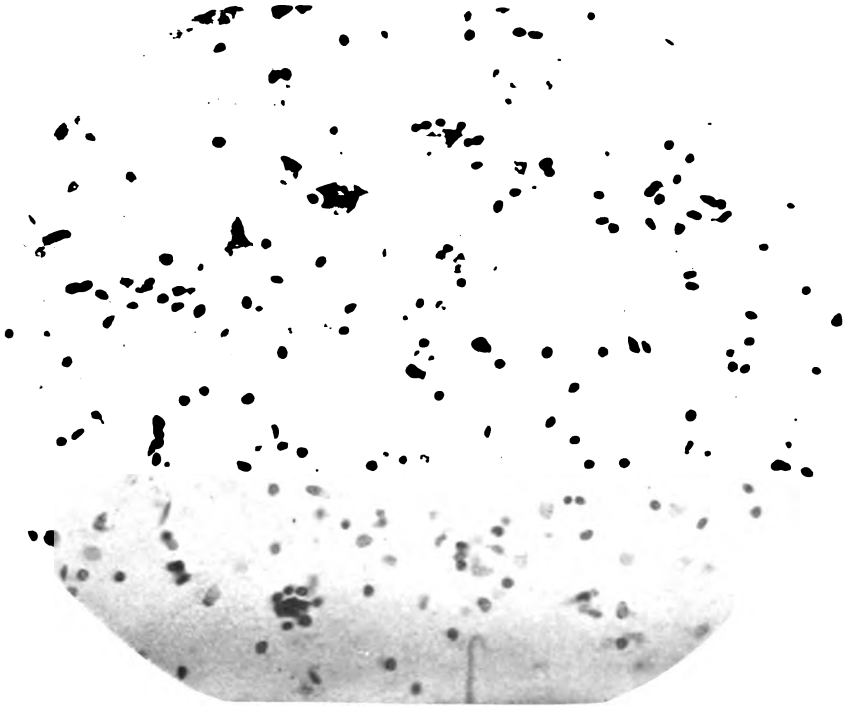

Nucleus ruber, showing cellular degeneration and invasion of parenchyma with cells—glia cells and polyblasts.

To illustrate paper on "The Histopathology of the Parkinsonian Syndrome following Encephalitis Lethargica," by Dr. HELEN S. E. MURRAY.

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and shadow-formation. The nuclei were eccentric in many cases, pale and homogeneous in others, and in many cells they seemed to have disappeared. The parenchyma was invaded with cells, which appeared to be polyblasts. There was evidence of glia-cells invading many of the smaller cells; they were often seen in groups close to the cell body. Pigment was present in several of the perivascular spaces and there were some small diffuse hæmorrhages.

Substantia nigra.—Here the number of pigmented cells was greatly reduced. The cells in the zona compacta showed degeneration (shrinking, shadow formation, fragmentation, etc.), the nuclei in many cases being eccentric. Pigment was present in the perivascular spaces, and was also scattered throughout the section. There was evidence of infiltration of the blood-vessels by "gitter"-cells in places. Moderate quantities of lipoids were present.

The ganglion-cells in the globus pallidus were fairly well preserved. "gitter"-cells were numerous, often forming foci.

The gyrus rectus showed evidence of old hæmorrhages. Slight perivascular infiltrations were observed in the orbital gyrus.

In the cerebellum there was some vascular congestion with atrophy of the small cells in the granular layer. Purkinje's cells appeared normal. There was evidence of chronic cellular degeneration (shrinking, shadow formation, etc.) throughout the medulla and pons. The parenchyma was invaded with "gitter"-cells in many places. There was a slight increase of glia and fibrils. The blood-vessels were numerous, and often hyperæmic. There was "cuffing" of many of the small vessels.

Comment.

Parkinsonianism presents a well-marked clinical picture—a mask-like expressionless face, sialorrhœa, rigidity, perspiration and tremor, with retardation of the voluntary movements. The great variety of clinical forms found, the numerous symptoms and their variability from case to case, indicate that the lesion is a widely diffused one.

Here the conclusions are based on one case, and it hardly seems justifiable to generalize on the basis of a single observation.

Marked macroscopic changes were not in evidence.

The main characteristic of the histopathology was the evidence of the widespread distribution of the affection over different functioning areas of the central nervous system, though certain of these were more affected than others. The systematic examination of

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the various parts showed that, though centred in the mid-brain, the disease affected all parts. Practically no region was quite normal. With the exception of the mid-brain, the lesions were scattered, the affected vessels and cells being found amongst others that appeared normal.

In the cerebral cortex the lesions were irregularly distributed, and no one region was more markedly affected than another.

A widespread and apparently independent degeneration of the nerve-cells was a notable feature. The cell changes were regressive. They were most marked in the basal parts of the brain, especially in the substantia nigra and the nucleus ruber. Cellular changes were also marked in the corpus striatum and thalamus, but the globus pallidus was only slightly affected. The trouble chiefly fell upon the mesencephalon, in the region of the crura and substantia nigra, extending towards the thalamus and the subthalamic regions, and so down to the pons and bulb, the lesions becoming less evident in the more distal areas.

The Parkinsonian syndrome is traceable to the corpus striatum and the structures in close proximity. In the corpus striatum we have a complex structure; the striate bodies are believed to comprise two chief systems—the neostriatum (caudate nucleus and putamen) and the palaeostriatum (globus pallidus). The striatum appears to have three main functions: The regulation of tonus, regulation of associated automatic movements, and the maintenance of muscular repose. The range of the functions may be appreciated when it is known that it represents "the highest motor control in these forms of life where there is no cortical function" (Wimmer) (2).

Souques (3) thinks of the centres involved as both motor and vasomotor. He believes that when the mesencephalon is but slightly involved and "reparable" in the course of the disease a Parkinsonian syndrome is produced; if the lesion is "irreparable" paralysis agitans results.

Tretiakoff (4) showed that in Parkinsonian states the substantia nigra is largely involved, and his findings have been corroborated by Bremer (5), Goldstein (6), Lucksch and Spatz (7) among others. Wimmer also found advanced changes in the substantia nigra and pallidum.

Hallevarden and Spatz (8) believe that the substantia nigra and globus pallidus are histologically and physiologically similar. In this case the substantia nigra was the one structure principally involved; though in some cases exhibiting marked Parkinsonian symptoms it has shown little change.

It is probable that lesions of the globus pallidus are responsible

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for the increased muscular tone evident in the Parkinsonian syndrome, and that abnormal movements, such as tremor, are due to lesions of the putamen and caudate nucleus.

The changes in the nucleus ruber may be responsible for the rigidity. Weed (9) considers the mesencephalon, especially the nucleus ruber, of chief importance in the production of rigidity. Graham Brown (10) is of the same opinion. The nucleus ruber is believed to have a constant effect on the cells of the anterior horn, thus ensuring the control and distribution of tone. A lesion would thus produce loss of control, leaving the vestibular systems to act on the anterior horn-cells.

The Parkinsonian syndrome is thus probably the manifestation of deranged function of the basal nuclei of the cerebrum, the vestibular system and the mid-brain.

I am indebted to Dr. R. M. Clark, Medical Superintendent, for permission to publish the case, and to Mr. A. H. Fann, Chief Laboratory Assistant, for his valuable help.

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TREATMENT OF POST-ENCEPHALITIS.*

By Isabella A. Gillespie, M.B., Ch.B., D.P.M.,
Assistant Medical Officer, Cheshire County Mental Hospital, Chester.

Hitherto the treatment of post-encephalitis has been profoundly unsatisfactory, and for the most part only palliative.

There are at present in mental hospitals some 200 cases; this is only a fraction of those not certified, and consists of an asocial class impossible to deal with outside a mental hospital.

It is agreed that cases of encephalitis constitute by far the largest proportion of patients attending neurological hospitals; also that the distinction of greatest incidence has passed from syphilitic sequelæ (such as general paralysis) to the sequelæ of encephalitis, *i.e.*, from one hopeless disease to another. Since acute encephalitis was made notifiable in January, 1919, the following have been the returns for each year:

1919 . . .	541	1923 . . .	1,025
1920 . . .	890	1924 . . .	5,039
1921 . . .	1,470	1925 . . .	2,635
1922 . . .	454	1926 . . .	2,267

The certifiable children most nearly approach the old Biblical conception of being "possessed of the Devil." They are a living death to the parents. In this connection Dr. Crafts, in his book, *Epidemic Encephalitis*, very aptly quotes Swinburne in the following lines:

> "At the door of life, by the gate of breath,
> There are worse things waiting for men than death."

Ætiology.

According to our present knowledge, encephalitis appears to be an organismal infection, probably gaining entrance through the naso-pharynx. In support of this there is the fact that the acute attack often commences with respiratory symptoms, and that naso-pharyngeal washings from infected cases have yielded a virus capable of producing similar symptoms in animals.

* A paper read at a Divisional Clinical Meeting held at the County Mental Hospital, Chester, March 28, 1928.

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In 1921, Strauss, in New York, Kling, in Sweden, and several others, claimed to have isolated an ultra-microscopic, filtrable virus which, when injected into rabbits and monkeys, reproduced typical symptoms and pathological lesions. At the annual meeting of the British Medical Association in July, 1927, the production in rabbits of these symptoms was disputed. It was suggested that the pathological results were due to the transmission from rabbit to rabbit of a disease peculiar to them, and only resembling the human disease superficially, *i.e.*, in some of its pathological findings.

Apart from all this, we know that clinically the disease behaves like other diseases known to be bacterial in origin, that there are remissions and exacerbations, and that the morbid process can be retarded.

The pathological lesions in chronic encephalitis are to be found chiefly in the mid-brain (especially the substantia nigra), the thalamo-striate ganglia and rubro-spinal tract.

It has been shown that histologically the foci of infection in many chronic cases are still active, and that even in advanced cases there are seldom signs of actual destruction of nerve-cells. This is a very hopeful and important point, and should influence our outlook on treatment.

Clinically, also, the disease is of a progressive nature; one can see evidences of spread from one part of the brain to another, *e.g.*, we have in this hospital a case who showed the Parkinsonian syndrome on admission, but later developed in addition signs of cerebellar ataxia. It is necessary, therefore, to consider chronic encephalitis as a disease in which the virus is still living and active, and which can at least be restrained.

Treatment.

Medicinal therapy, with hyoscine, belladonna and numerous other drugs, is as a rule only palliative. Certain distressing symptoms undoubtedly relieved, but something more radical is required. In this hospital we have adopted the following general lines of treatment.

(1) In the first instance, each patient is subjected to a thorough physical examination to detect foci of toxic absorption. Nearly every case requires dental treatment, and in many there is advanced pyorrhœa. Intestinal stasis is also very common, and antiseptic lavage has proved useful.

(2) An attempt is next made to increase the patient's resistance by means of special feeding, tonics, and, in particular, a graduated course of ultra-violet therapy. I agree with Dr. Jaffe's findings,

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published in the *British Medical Journal*, December 31, 1927, that such a course results in marked improvement in some cases.

(3) In certain cases liver treatment is being employed. I am aware that it is held that there is no hepatic deficiency in encephalitis, but at the same time there is known to be an association between liver disease and disease of the corpus striatum.

(4) Diathermy is being used in the hope that it may, by increased temperature, kill the germ. It has been used with great success in pneumonia, gonococcal infection, and rheumatic conditions, and also in paralysis agitans. So far it has been found to reduce salivation, and if it proves successful it may be useful to the general practitioner who is handicapped in the use of induced malaria.

(5) In one case an autogenous vaccine, made from organisms found in the naso-pharynx, is being used.

Besides these methods, graduated gymnastic exercises are given to selected patients, with the object of assisting muscular co-ordination and preventing contractures. In those patients who are physically fit, some form of occupational therapy has been found useful in giving an aim and interest, and also in overcoming stiffness of the hands.

Finally we now give each of our cases a course of induced malaria. We began this treatment in July, 1927, the *rationale* being that if encephalitis is, as we believe it to be, caused by a germ, and if that germ is still living and active, and the infection is smouldering in the central nervous system, some form of fever therapy may have a beneficial effect.

Malaria is not the only means of inducing pyrexia. The virus of recurrent fever has been used by Marcus, Kling and Hoglund in a series of 18 cases of advanced encephalitis. Marked improvement was claimed in two-thirds of the cases so treated, *i.e.*, with recurrent fever.

There is an obvious resemblance between syphilis and general paralysis on the one hand, and acute and chronic encephalitis on the other. The benefit from malarial treatment in early cases of general paralysis is well known, and in this hospital we have obtained 8 complete recoveries. In giving malaria for both these diseases, we are greatly handicapped by the fact that we seldom receive cases in the early stages.

The technique in our malarial treatment of post-encephalitis is the same as that used in general paralysis.

It is interesting to note that in our experience the patients without exception made a rapid and uneventful convalescence, and

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that the debilitating action of the malaria was never alarming. This is in direct opposition to the experience of other workers, who found malarial therapy in these cases to be an unjustifiable method of treatment. I notice, however, that their patients were inoculated directly by mosquitoes, in which case quinine has less efficient control, and the course of the disease is often very different from that resulting from blood transfusion.

Only two of our cases died, the cause in one case being phthisis, and in the other fatty degeneration of the heart. Both died a considerable time after the malarial treatment.

Results of malarial treatment.—Eighteen cases have been so treated in this hospital; 12 have shown some signs of improvement, and of these 12, 7 have subsequently regressed to varying extents; 5 have maintained their improvement up to the present time; 4 cases showed no improvement whatever; 2 have only recently been infected, so that the result cannot be judged.

One patient improved so much that he was subsequently discharged to his home "on trial." His mother stated that he was never better in his life. The improvement in his case dated from the time of his malarial attack. The first signs of improvement, according to the patient's own statement, appeared while he was undergoing the rigors.

Summary of the Cases Treated.

Case 1.—D. M. C—, female, æt. 22; acute onset 1925.

Condition before treatment.—Parkinsonian with epileptiform fits. Dull, lethargic, mask-like facies, eyes always closed; impulsive, negativistic and requires spoon-feeding. Habits very faulty. Salivation very troublesome. Skin greasy.

Two months after treatment.—Marked improvement. All actions more briskly performed. Eyes kept open. Patient plays the organ, moves voluntarily, and attends to physical needs. Habits quite clean. Salivation ceased. Skin condition improved.

Present condition (8 months after treatment).—Regression marked. Has again become lethargic. Salivation has returned. Habits are still clean. Has developed signs of cerebellar ataxia.

Case 2.—C. V—, female, æt. 31; acute onset 1920.

Condition before treatment.—Parkinsonian. Mask-like face, rigidity, severe salivation, dysphagia. Speech is slow and articulation indistinct. Spastic paraplegia with athetoid movements. Habits faulty.

Two months after treatment.—Slight improvement. Less retarded, expression brighter, salivation much reduced. Can swallow semi-solid food. Circulation and skin condition improved. Habits clean.

Three months after treatment.—Regression. Moans continually. Swallowing difficult. Progressive emaciation. Died 5 months after treatment from acute phthisis.

Case 3.—G. M—, female, æt. 28; acute onset 1925.

Condition before treatment.—Parkinsonian. Unemotional face. Retardation both mental and physical. Fixed and rigid attitude. Greasy skin.

Two months after treatment.—Slight improvement. Expression brighter. Movement less slow. Skin more healthy.

Present condition (5 months after treatment).—Improvement maintained. Is mentally brighter; is able to read and to do simple housework.

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CASE 4.—E. A. D—, female, æt. 28; acute onset October, 1918.

Condition before treatment.—Parkinsonian with spastic paraplegia and contractures of both lower limbs (knees almost up to chin). Mentally apparently demented. Chatters incoherently, eyes always closed, tremors of eyelids; has to be spoon-fed. Habits very dirty. Emaciated and anæmic.

One month after treatment.—Slight but definite improvement. Opens her eyes answers questions, takes food voluntarily. Habits much cleaner.

Present condition (5 months after treatment).—Improvement is progressive and definite. She now reads, laughs and converses rationally. Rigidity is much less, lower limbs almost straight; can walk with assistance. Menstruation has returned. Is steadily gaining weight. Habits quite clean.

CASE 5.—M. E. R—, female, æt. 21; acute onset 1926.

Condition before treatment.—Parkinsonian. Stuporose. Fixed, expressionless face. Has never spoken one word since admission. Muscles very rigid. Habits faulty. Physical health very poor.

Three months after treatment.—Slight improvement. Is more animated and smiles at jokes, but is still mute. Habits clean. Physical health improving.

Present condition (4 months after treatment).—Improvement is progressive. She now talks a little, reads the paper and does sewing. She also dances and is much less rigid.

CASE 6.—A. A—, female, æt. 14; acute onset 1917.

Condition before treatment.—Moral delinquent. Disobedient, untruthful and dishonest. Assaults nurses and patients, and at times is almost uncontrollable. Incapable of any useful occupation.

Three months after treatment.—Slight improvement. Is more obedient and can now be employed at basket-making, etc. Physical health improved. No permanent improvement: subsequently became as troublesome as ever.

CASE 7.—S. L. D—, female, æt. 11; acute onset 1924.

Condition before treatment.—General intelligence above average, but is morally unstable, selfish, deceitful and disobedient. Shows marked respiratory disorder (hyperpnœa), and also has hysterical attacks of screaming, etc.

Present condition (8 months after treatment).—Improvement was noticed within two months of treatment, and has been progressive. Breathing is normal, behaviour very much improved and hysterical attacks infrequent. Physical health much improved.

CASE 8.—R. C—, male, æt. 22; acute onset 1926.

Condition before treatment.—Parkinsonian. Lethargic, unresponsive, and with fixed, mask-like face. Rigidity and salivation marked. Has to be dressed and fed.

One month after treatment.—Slight improvement. Salivation less marked. Movements less rigid.

Present condition (7 months after treatment).—Regression. Is rigid and almost as helpless as formerly. Salivation very troublesome.

CASE 9.—E. C—, male, æt. 20; acute onset 1925.

Condition before treatment.—Parkinsonian. Dull, retarded and rigid. Behaviour impulsive at times.

Three months after treatment.—Slight improvement. Is less rigid; employs himself in workshops and shows much mental improvement.

Present condition (6 months after treatment).—Slight regression. Is lethargic and less inclined to work.

CASE 10.—F. E. C—, male, æt. 23; acute onset 1925.

Condition before treatment.—Fixed, mask-like face, dyspnœa and hyperpnœa. Behaviour irrational and impulsive.

Three months after treatment.—Much improvement. Is brighter and more interested. Conversation rational. Breathing normal.

Present condition (6 months after treatment).—Apparently recovered and has been discharged to his home "on trial."

CASE 11.—E. J—, male, æt. 25; acute onset 1920.

Condition before treatment.—Depressed with acute suicidal impulses. Speech and actions retarded. Rigid, unable to walk; has to be fed and dressed. Athetoid movements. Groans continuously.

Two months after treatment.—Slight improvement. Is brighter and no longer groans. Rigidity less and athetoid movements diminished.

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Present condition (5 months after treatment).—Marked regression. Is acutely miserable and becoming helpless. Has also developed signs of phthisis.

CASE 12.—S. H—, male, æt. 20; acute onset 1927.

Condition before treatment.—Mask-like expressionless face. Never speaks and is quite disinterested. Salivation troublesome. Habits faulty.

Three months after treatment.—Considerable improvement. He now converses with others, is much less lethargic, and does a little ward work. Habits clean.

Present condition (4 months after treatment).—Regression. Is again silent, lethargic and rigid.

The remaining 4 cases showed no improvement and have therefore been omitted.

CONCLUSIONS.

(1) In the majority of cases—three-fourths of those treated—there has been some temporary improvement, and in the cases which have subsequently relapsed, regression has not been complete.

(2) There has usually been permanent benefit in some particular direction, but chiefly in wet and dirty cases, who have, without exception, become clean in their habits and have remained clean since their treatment.

(3) Improvement has been noted in the following symptoms and signs: Mental condition, rigidity, tremors, salivation, greasy skin, hyperpnœa and incontinence. Also the general physical condition in nearly all the cases has improved.

In conclusion I wish to thank the Medical Superintendent, Dr. G. H. Grills, for his constant stimulation and valuable advice during the carrying out of these experimental methods of treatment, and for permission to publish the notes of these cases.

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BACTERIAL CHANGE IN MENTAL DISORDER: THE BACTERIAL DIGESTION OF TYROSINE.

By F. H. STEWART, D.Sc., M.D.,
Major, *I.M.S.* (retired); Assistant Medical Officer, Cheddleton Mental Hospital.

IN a previous paper (*Journ. Ment. Sci.*, April, 1928, p. 269) the writer has pointed out that a culture tube of tyrosine bouillon, if inoculated from the fæces of a healthy person, incubated for forty-eight hours and distilled, will be found to contain not more than 0·008% of phenol, or at most 0·015%. If, on the other hand, similar cultures are made from mental patients they will contain 0·02 to 0·03% of phenol in one half of the persons examined. In all these cases the phenol is formed by the action of bacteria on the tyrosine in an alkaline medium. The most important phenol-producing bacterium in the insane is *B. Morgani*, which can be demonstrated in 25% of acute cases, while *B. phenologenes*, Berthelot, is found in a smaller number. The paper referred to dealt with the toxic effects of *B. Morgani* and the results of vaccination with this organism. In the present paper another aspect of the matter will be considered, namely, the production of tyramine from tyrosine by intestinal bacteria, and whether poisoning by this substance may be a cause of mental disturbance.

Bacteria which form phenol from tyrosine in an alkaline medium form tyramine from it in an acid medium containing a fermentable carbohydrate such as glucose or glycerine. On this subject Hanke and Koessler (1924, p. 867) write: (1) All colon bacilli which decarboxylate tyrosine to tyramine in an acid medium with carbohydrate, form phenol in an alkaline medium. (2) A colon which splits histidine into histamine in an acid medium does not form phenol in an alkaline medium. (3) Of the large group of neutral colons splitting neither histidine nor tyrosine, none have been found to give phenol.

We may therefore assume that bacteria which give rise to phenol in alkaline culture produce tyramine in the acid contents of the large intestine and perhaps also in the small intestine, where tyrosine, glucose and glycerine are to be found together. In fact phenol in the test-tube indicates tyramine in the bowel.

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Physiological and Pathological Action of Tyramine.

Barger (1914) states that tyramine or p-hydroxyphenylethylamine resembles adrenaline in its action, but with only one-twentieth of the potency of the latter; doses of 1–2 mgrm. injected intravenously cause a sudden and pronounced rise of blood-pressure, somewhat less transitory than that caused by adrenaline; the output of the heart is increased; the non-pregnant uterus relaxes, the pregnant uterus contracts; the salivary glands are stimulated. Its action is sympathomimetic, 100 mgrm. hypodermically to a cat gave all the symptoms of intense stimulation of the sympathetic nerves, but no after-effects or glycosuria.

The base acts so much like ergot that some writers have described it as the chief pressor constituent of certain extracts of ergot (Barger and Dale, 1909).

W. H. Harvey (1911) found that prolonged dosing with tyramine, either by mouth or vein, caused vascular sclerosis and secondary chronic nephritis in rabbits.

Experiments on animals are, however, of little value in determining whether the amine has any action on man, and more especially on his highest nerve centres and endocrine organs. In our present studies we are dealing not with normal man, but with those possessing an unstable nervous system. But helpful experiments have been provided on a fairly large scale by various epidemics of ergot poisoning in man, the latest of which is especially valuable since it affected a Jewish community that may be assumed to include a fair number of potential neuropaths. This epidemic is reported by Robertson and Ashby (1928), the symptoms being as follows: Coldness and numbness of the extremities, loss of touch and pain sensation in the fingers, formication and itching, nervousness, depression and headache, abdominal pain, staggering gait and ataxia, and rise of blood-pressure in some cases of long-standing to 174 mm.

The present paper, then, concerns itself with suspected tyramine poisoning, but it must be remembered that tyramine is only one of several ptomaines which may be formed by bacterial action in the intestine, and that if tyramine is not demonstrable in any one case it is still possible that some other amine, such as histamine, may be causing the symptoms. Therefore we must not expect a high phenol percentage in all cases, and even the same patient might suffer from poisoning by tyramine in one attack, with a high phenol percentage, and by histamine in the next, with low phenol. In the same way in recurrent coliform cystitis the infecting bacterium may be a lactose-fermenter in one attack and a

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non-fermenter in the next. The common factor in each of the two attacks is an unstable nervous system in the one case and a bladder of low resistance in the other.

The previous literature on the amines contains many important papers which cannot be summarized briefly; they will, therefore, be referred to only in the bibliography at the end of this article. Suffice it to say that none is conclusive on the practical point at issue, *viz.*, whether disease is caused by the amines which are acknowledged to be present in the bowel. Two papers are, however, of special interest for our present discussion, *viz.*, Mellanby, 1911, which suggests that cyclic vomiting of children may be due to histamine, and Eustis, 1912, which attributes spasmodic asthma to the same base.

Section A.

The Phenol Percentage in Mental Patients compared with Sane Controls.

Sixty-five patients have been examined, in 33 of whom more than one examination has been made (162 observations in 33 cases), and in 32 only one examination. The series of sane controls consists of 28 male members of the staff of this hospital (Table I and Fig. 1). For each person one phenol reading only has been taken and that is the highest which he has given. The reason for this limitation will appear in the next section.

In Fig. 1 the base-line scale represents phenol percentage, the vertical gives the percentage of persons in the series at each degree of phenol. It will be seen that in the control series the curve begins at no phenol in 10·7% of the cases, rises abruptly to a

Table I.

Phenol, %.	Mental patients, acute.		Sane controls.	
	Number.	%.	Number.	%.
0·06	2	3	..	..
0·04	2	3	..	..
0·03	10	20	..	..
0·025	3			
0·02	11	24·6	2	7·14
0·015	5			
0·01	1			
0·0075	12	24·6	10	35·7
0·006	3			
0·005	7	21·54	9	46·42
0·002	7		4	
0·00	2	3	3	10·7
	65	99·74	28	99·96

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maximum at 0·002–0·005% phenol in 46·42% of the cases, drops steeply through 0·01 to 0·02 in only 7·14% of the cases. The mental series, on the other hand, shows a greatly flattened curve extending as far as 0·06% phenol, the number of persons at the four readings 0·005, 0·01, 0·02 and 0·03 being nearly equal. The actual numbers in the two series are given in Table I, and it will be seen that one half of the mental patients show a wide departure from the normal.

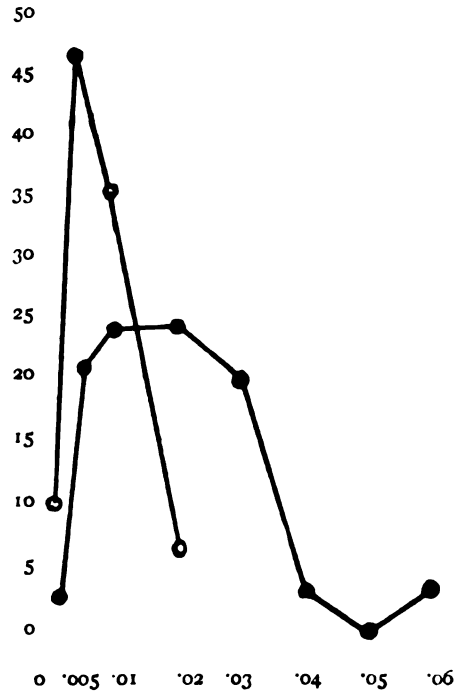

FIG. 1.—● Mental patients. ○ Controls.

SECTION B.

Table II deals with those mental patients of the series who gave any single phenol reading of 0·015% or over. The figures show the number of observations made on each patient, and these are divided so as to show whether high phenol readings occur in acute phases of illness and low readings in subacute as we would expect. It will be seen that the expectation is fulfilled since practically all the high readings occur in acute phases.

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TABLE II.

Case No.	Reading of acute phase.		Reading of subacute phase.	
	0·015% and over.	Below 0·015%.	0·015% and over.	Below 0·015%.
1	2	2	0	2
2	2	1	0	9
3	4	5	2	17
4	14	1	0	1
5	10	3	0	1
6	3	2	2	3
7	3	1	0	5
8	1	0	0	7
9	4	0	0	1
10	1	3	0	0
11	1	0	0	1
12	0	0	1	2
13	1	1	0	0
14	1	1	0	0
15	1	1	0	0
16	1	1	0	0
17	1	0	0	1
18	1	3	0	3
19	1	3	0	0
20	2	2	0	0
21	8	2	0	0
22	0	1	2	1
23	1	0	0	1
24	1	1	0	0
25	0	0	1	1
26	0	0	1	0
27	1	0	0	0
28	1	0	0	0
29	1	0	0	0
30	1	0	0	0
31	1	0	0	0
32	1	0	0	0
33	1	0	0	0
	71	34	9	56

SECTION C.

We now come to consider the individual cases. The first six have been recorded in my previous paper, and of these only the continuation of Cases 3 and 4 will be given here (see Table III).

In the cases given in Table IV no phenol-producing bacteria were isolated by plating on McConkey's medium. The phenol is probably formed by bacteria of the acidophilus-bulgaricus group.

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TABLE III.

Case No.	Date.	Phenol, %.	Phenol-producing bacteria isolated.	Clinical notes.
3	8.iii	0·0005	Paracolon	Recurrent mania in interval.
	16.iii	0·003	..	Morgan vaccine ½ and ¼ c.c. intravenously.
	29.iii	0·003	..	Mild mania 25.iii to 2.iv.
	16.iv	0·008	..	Interval.
	23.iv	0·001	..	Mania begins. (Purgative.)
	25.iv	0·0075	..	Mania.
	1.v	0·025	*B. Morgani*	,, Constipated.
	10.v	0·0001	..	Interval.
	12.v	0·01	..	,,
	14.v	0·01	..	,,
	16.v	0·0075	..	,,
	19.v	0·025	..	,, Constipated.
	20.v	0·01	..	,, After calomel.
	23.v	0·01	..	,, Constipated.
	25.v	0·0002	..	,,
	26.v	0·025	..	Prodromal stage. Not constipated.
	27.v	0·00	..	Mania early. After calomel.
	29.v	..	..	Profuse urticaria.
4	31.iii	0·03	..	Acutely suicidal from February to end of March, then into stupor.
	2.iv	0·06	*B. Morgani*	Enema on alternate days.
	8.iv	..	..	½ c.c. Morgan vaccine intravenously, reaction to 104° F.
	10.iv	0·02	..	..
	13.iv to 29.iv	0·03 to 0·01	*B. Morgani*	Stupor continuing.
	13.v	..	..	,, ended suddenly.
	16.v	0·0075	..	Almost normal mentally.
7	31.i	0·02	*B. Morgani*	Acute melancholia. Morgan vaccine ½ c.c. twice.
	24.ii	0·03	..	..
	10.iii	0·0075	..	..
	16.iv	0·005	..	Slow improvement.
	22.iv	0·0002	..	..
	25.iv	0·0075	..	..
	30.iv	0·01	..	..
	15·iv	0·004	*B. communior*	Marked improvement.
8	13.iii	0·04	*B. Morgani* *B. mutabile*	Acute dementia præcox.
	2.iv	0·005	..	..
	16.iv	0·004	..	Becoming subacute.
	22.iv to 14.v	0·0075 0·0001	..	Subacute.
9	17.ii	0·02	*B. Sonne* non-agglutinable by standard serum	Recurrent mania with asthma, acute.
	21.ii	0·02	..	Acute.
	25.ii	0·02	..	,,
	29.ii	0·02	..	,,
	24.vi	0·001	..	Interval, no mania or asthma.

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TABLE III—*continued.*

Case No.	Date.	Phenol, %.	Phenol-producing bacteria isolated.	Clinical notes.
10	26.iii	0·025	*B. Morgani*	Acute melancholia.
	4.iv	0·002	..	Less acute.
	to 15.v	0·001		
11	23.ii	0·002	..	Insanity with epilepsy, chronic.
	25.v	0·015	*B. communis and communior*	Series of fits with confusion.
12	19.i	0·0075	..	Idiocy with epilepsy, bromidrosis.
	1.ii	0·025	*B. Morgani*	1 fit in February, 1 in April.
	14.v	0·00	..	No fits in May.
13	9.i	0·002	..	Mania.
	13.iv	0·02	*B. Morgani*	Acute, readmitted.
14	25.iii	0·00	*B. mutabile*	Epilepsy. Very constipated.
	26.iii	0·015	..	After enemata.
15	8.xii	0·02	*B. Morgani*	Hysterical insanity, acute.
	10.i	0·004	..	Subacute.
16	19.iii	0·02	*B. communior*	Dementia præcox, acute.
	29.iii	0·01	..	..
17	2.iii	0·03	*B. acidi lactici*	Agitated melancholia.
	16.iv	0·002	..	Feeble and bedridden.

TABLE IV.

Case No.	Date.	Phenol, %.	Clinical notes.
18	26.ix	..	Recurrent mania, just relapsed.
	2.xii	0·02	..
	17.xii	0·0075	Mania ends.
	30.xii	0·004	Interval.
	21.i	0·004	,,
	23.iii	0·00	Just relapsed.
	26.v	0·002	Interval.
19	31.xii	0·0075	Recurrent mania, relapsed on 30.xii.
	5.i	0·0075	..
	9.i	0·002	..
	10.i	0·0075	..
	23.iii	0·01	Just relapsed.
20	5.xii	0·03	Acute dementia præcox, with pallor, high unstable blood-pressure, dilated pupils.
	7.xii	0·004	..
	21.i	0·004	..
	24.ii	0·03	..

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TABLE IV—*continued.*

Case No.	Date.	Phenol, %.	Clinical notes.
21	7.xii	0·03	Insanity with epilepsy in mania.
	23.i	0·0075	In mania.
	23.ii	0·03	,,
	27.ii	0·02	,,
	5.iii	0·025	In mania.
	19.iii	0·008	After mania.
	27.iii	0·02	Before mania.
	17.vi	0·003	After mania.
22	21.ii	0·02	Dementia præcox with recurrent mania in interval.
	8.iii	0·025	,, ,, ,, ,, ,,
	17.iii	0·007	,, ,, ,, ,, ,,
	12.vi	0·004	In mania.
23	23.ii	0·015	Epilepsy, after fits.
	24.v	0·0075	Interval.
24	6.xii	0·02	Dementia præcox, chronic.
	23.i	0·0075	,,
25	28.xii	0·0075	Neurasthenia with delusions.
	25.v	0·0015	,,

Through the kindness of some friends in practice I have had the opportunity of examining two cases of pernicious anæmia, two of asthma and one of migraine. Pernicious anæmia was chosen because of the resemblance in symptoms between subacute combined degeneration and ergot poisoning.

Pernicious anæmia, two cases, phenol 0·01, *B. coli communis phenologenes* in one.
Asthma, Case 1, during interval, phenol 0·002, during attack 0·0075.
,, Case 2. after attack, phenol 0·015.
Migraine, 1.v, during attack, phenol 0·02, *B. lactis acrogenes phenologenes.*
,, 24.v, during interval, phenol 0·001.

It could be said that the increase of phenol percentage is due merely to the constipation which accompanies the mental illness or to the purgation used to overcome this state. One of the normal controls was habitually constipated and constantly used purgatives, but cultures in his case gave phenol readings *nil* and 0·0015. Highly constipated stools may give very low, medium or high phenol, and stools passed after drastic purgation may do the same, while stools of normal appearance passed after several days of regularity may give high phenol.

It is obvious that one crucial question still remains to be answered, namely: Does the rise of phenol percentage precede or at least coincide with the onset of the illness or does it occur in the fully

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developed illness? In the former case it may be causal, in the latter it is merely symptomatic.

Another line of work must also be completed, *viz.*, the examination of cultures in various amino-acids for the corresponding amines, and the quantitative estimation of the latter by simple phsyiological methods if they are found.

Technique.—The tyrosine medium used consists of bacteriological bouillon made with Lemco, but in which peptone is replaced by tyrosine 0·1%. The highest yield of phenol is obtained when the hydrogen ion concentration is from 7·5 to 7·8.

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STUDIES ON THE ACID-BASE REGULATION IN MENTAL DISORDERS.

(*From the Central Pathological Laboratory of the London County Mental Hospitals.*)

PART I.

The Determination of Urinary Acidity.

By S. A. MANN, B.Sc., F.I.C., R. W. MORRIS, B.Sc., A.I.C., and G. K. ROWE, M.Sc., A.I.C.

THE following is the first of a series of communications relating to urinary excretion in cases of mental disorder with special reference to acid excretion. In this paper it is proposed only to deal with the make-up of urinary acidity and the methods for the determination of the acid characters. It is well known that respiratory regulation constitutes the first line of defence against change of body reaction, and that the kidneys afford the second protection against alteration by variations in the acid-base ratio of the urine. It is also fully established that urinary acidity is dependent on the nature of diet ingested, but it is not so well recognized that the urinary reaction is also dependent on the adequacy of the respiratory compensatory mechanism, and it would appear that those interested in dietetics and chemical effects on urinary acidity have not appreciated sufficiently the significance of the physiological influences, and those concerned with the respiratory side have been apt to disregard the influence of diet. The organism promptly defends itself against alkalinity by the excretion of bicarbonate, whether the alkalinity be due to ingested alkali or excessive exhalation of acid (CO_2), and this excretion of bicarbonate appears to be independent of any particular renal threshold for bicarbonate (1). The response of the organism to acidity, however, is a much longer process, and in this case the kidney compensation takes the form of retention of base (1) by ammonium base production and (2) the retention of bicarbonate by alteration of the ratio of mono- and dibasic phosphate excreted according to the equation—

$$Na_2HPO_4 + CO_2 + H_2O = NaH_2PO_4 + NaHCO_3.$$

The ammonium base production from the waste nitrogenous substance urea is capable of great expansion and large quantities may

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be created to replace and prevent the loss of Na to the organism, which might result from the effect of invading acids. The phosphate acid compensation is more limited in extent and depends on the amount of available phosphate, and the fact that there is a limit to the effective acidity that can be excreted by the kidney. The phosphate available as shown by the phosphate concentration of the urine may show wide variations in amount; and in the present series of urines examined (a large number representing 24-hour, day and night, and short period urines), the phosphate concentration varied from M/15 to M/150. The ammonium base production deals with the greater part of acid regulation and its excretion rate follows closely the pH of the urine, but the main adjustment of the urinary reaction is effected by the balance of the mono- and di-basic phosphates excreted. It is found that under most conditions the pH of the urine ranges, on the acid side, from 4·5 (the pH of acid phosphate solution) to approximately 8·8, on the alkaline side, the maximum pH for bicarbonate solutions.

Ammonium production has been shown by Benedict and Nash (2), (3), (4) to be a renal function; and its formation bears some relation to the amount of phosphate available. Haldane concludes (5) that the ratio of acid to ammonia in the urine depends on the amount of phosphates available for excretion. In his experimental acidosis the phosphate excretion was increased at the onset, but fell later indicating an exhaustion of phosphate resources. Marriott and Howland (6) fed equivalent amounts of acid in the form of dilute HCl and mixtures of phosphates of different pH to humans, and whereas the acids increased both titration-acidity and ammonia output, acid sodium phosphate increased the output of acid only, and a phosphate solution of pH 7·4 increased the acid but diminished the ammonia output. Hubbard and Munford (7) have shown that the ammonia output varies with urinary volume, which further exemplifies the base-saving object of ammonia production. Ammonia excretion accompanies acidosis, but the output may be even greater during recovery from acidosis (8), in either case it represents the need of the organism for base economy, and Ambard and Schmid (9) regard the renal production of ammonia as being guided by the general composition of the blood and not merely in response to acidosis.

Hasselbalch has suggested that the ratio between ammonia and total nitrogen in the urine varies with the pH, and Rafflin (10) suggests another formula on the same lines, but Polnovski and Boulanger (11) from the analysis of two-hourly by day and complete night urine specimens could obtain no constancy with either formula. Fiske (12) has determined the ratio of ammonia and

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sulphate excreted, and suggests that the value of this ratio varies with the pH.

The availability of phosphate and the changes in phosphate excretion are considered to be related to the variations in carbohydrate metabolism dependent upon muscular movement and tone; increased excretion being associated with muscular relaxation when phosphate is not required, or after exercise, it has fulfilled its functions in muscular metabolism (13). As a rule the phosphate excretion and acidity fall during the morning, and rise from noon onwards to an evening maximum.

Lastly, in the make-up of the amount of urinary acidity and less associated with urinary reaction, are organic acids, uric, hippuric and aliphatic acids, which, if the organism tends to alkalinity, will be excreted with their full quota of base, but with increasing acidity and retention of base by the kidney may be excreted in a partially combined state. In very acid urines containing aceto-acetic and β-hydroxybutyric acids, 5% of the former and 20% of the latter may be in the free state (14).

The tidal variations in urinary excretion in normal and psychotic subjects will be recorded in a later communication, but the following figures (Table I) for two-hourly urines, day and night, from a normal and an (acid) psychotic subject show the phosphate and ammonia excretion in relation to the total acidity and urinary pH.

TABLE I.

—	8–10 a.m.	10–12 a.m.	12–2 p.m.	2–4 p.m.	4–6 p.m.	6–8 p.m.	8–10 p.m.	Average for two hours, night.
Normal:								
Volume	105	68	98	102	109	196	56	56·8
pH	7·1	7·4	7·1	7·2	6·2	6·0	5·2	5·3
Total acidity N/10	3·2	2·4	5·4	7·2	21·8	26·5	25·2	27·6
Total phosphates N/10	10	8	17	19	28	24	18	21
Total NH_4 N/10	23	20	21	28	30	42	41	43
Acid psychotic:								
Volume	61	103	87	125	115	65	...	113
pH	5·0	5·0	5·0	5·2	5·0	5·0	...	5·2
Total acidity N/10	25·1	45·9	41·8	38·9	53·5	39·4	...	26·8
Total phosphate N/10	13	21	20	18	26	19	...	17
Total NH_4 N/10	45	75	40	46	70	40	...	34

The factors of urinary acidity usually determined are:

(1) The total acidity and ammonium base, the sum of which represents the excretion of acid without the loss of base to the organism, and indicates the need of the body for base economy.

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(2) The phosphate concentration, and the ratio of the mono- and di-basic phosphates representing the main factor in the adjustment of urinary reaction.

(3) The organic acid concentration.

And lastly, the sum total of all these factors, the pH. At a urinary pH more alkaline than 7·4 the organism must tend towards alkalinity, and at a pH at which all available phosphate is excreted in the acid form, pH 5–4·5, there must be a tendency towards acidity, the resulting body reaction depending on the adequacy of respiratory adjustment.

Reference will be made to the methods adopted for the determination of those factors, especially in relation to the total acidity titration of Folin, which appears to be faulty in principle, and to the organic acid titration of Van Slyke and Palmer (15), (16), which may give rise to erroneous conclusions without adequate understanding of the factors involved.

Hydrogen Ion Concentration.

pH determinations have been made by the usual method of addition of indicator to diluted urines and to a series of standard buffer solutions of pH 4 to 9 similarly diluted, and comparison of the colour with the standards. The buffer standards require to be made every few days, and their general preparation is rather beyond the facilities afforded by the ordinary mental hospital laboratory. The B.D.H. capillator method provides a simple and rapid technique of sufficient accuracy for clinical laboratories. It consists in merely mixing equal volumes of urine and the given indicator and comparing the colour produced with the standards provided. Compared with the usual method, this simple process gives very consistent results.

Total Acidity.

The usual method for determination of urinary total acidity consists in the titration of a known quantity of urine with N/10 alkali to the phenolphthalein end-point (pH 7·8). The titration figure is too high and Henderson and Palmer (17) titrate to pH 7·4, the former, however, is the more common practice. This titration with N/10 alkali will include the amount of acid phosphate present, weak organic acids, uric acid, hippuric acid, aliphatic acids, and creatinine. The latter are mainly dietetic in origin, and under ordinary conditions relatively unimportant, but the former depends on the amount of phosphate available and may bear no relation to the pH of the urine, which is mainly dependent on the ratio

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of the mono- and di-basic phosphates. It should be noted that ordinary base-forming diet promptly shows an alkaline effect on the urine, whereas an ordinary, acid-forming diet, although raising the total acidity figure (18), does not produce the same change of urinary pH as that noted during sleep which is due to slowing of CO_2 output associated with a less sensitive respiratory mechanism.

In this titration with phenolphthalein Folin states that there is interference with the end-point due to calcium salts, and recommends the following procedure: To 25 c.c. of urine 15–20 grm. finely powdered potassium oxalate and one or two drops of 1% phenolphthalein solution are added. The mixture is shaken vigorously for 1–2 minutes and titrated with N/10 sodium hydroxide until a faint pink colour remains permanent on standing. During the course of hundreds of such titrations it has been noticed that wide discrepancies may occur with this method depending on the concentration and composition of the urine in question. Such discrepancy is considerably more than an interference due to calcium salts and may represent a 30% error. The difference between the titration figure, with and without oxalate addition, bears a relation to the pH of the specimen with consequent ionic concentrations and urate content. The addition of oxalate, as recommended by Folin, gives results less accurate than the simple titration of the urine.

Phosphate Ratios.

In a solution of mixed mono- and di-basic phosphates, titrations with standard alkali to phenolphthalein change will give the amount of acid phosphate, and following titration with standard acid to methyl orange change will give the total amount of phosphate, thus enabling the ratio of the two phosphates to be determined. On the grounds that the phosphates of the urine are the principal constituents concerned with its reaction, and that urinary reactions practically always lie between the pH's represented by the phenolphthalein and methyl orange changes, this method of titration has been applied to urines (19), the results being expresesd as acidity or alkalinity *per cent.* as with the phosphate solutions. Others have termed this double titration the urinary phosphate ratio, inferring that it represents the ratio of urinary mono- and di-basic phosphate. Although these titrations may give an insight into the buffer capacity or potential reaction of the fluid, it is found that they bear not the slightest relation to the actual amount of phosphate present; the titration figure may be as much as five times that of the actual amount, and gives but a very crude index of the actual phosphate ratio. Moreover, there is only rough correspondence between the

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pH and the " phosphate ratio " thus determined. The inaccuracy is due to the interference by uric acid, hippuric acid, creatinine, and aliphatic acids (β-hydroxybutyric, lactic, etc.).

Determination of Urinary Ammonium Base.

The estimation of ammonium base excretion is of importance in urinary analysis. The following methods are available.

1. The aeration method of Folin. Alkali is added to the urine and the ammonia set free carried over by aeration into a measured amount of acid, the quantity evolved being determined by titration of the acid excess or colorimetrically by Nesslerization.

2. Distillation *in vacuo* of urine rendered strongly alkaline, and collection of the NH_3 in standard acid and estimation by titration or colorimetrically.

3. A colorimetric method (20) depending on the fact that amines or imines with presence of sodium hypochlorite react with phenol to give first p-nitroso phenol. This in turn reacts with the excess of phenol to give p-benzoquinonoxyphenylimine, which has a blue colour in solution (21).

4. The formol titration method (22), which gives a figure representing both ammonia plus amino-acid nitrogen.

The first two methods are tedious and not practicable for a large number of estimations. The colorimetric method gave promise of being a rapid and accurate one, but an exhaustive investigation has been unsuccessful in arranging the technique to give reliable results, and it has been found that the Malfatti formol titration is the best practical method, and, as will be shown later, accuracy can be approached by a preliminary adsorption of the urine with animal charcoal.

The Effect of Charcoal Adsorption on the Composition of Urine.

Errors in the analysis for acidic factors of urine are mainly due to colour and interference by uric acid, creatinine, etc., and the following analyses were made following successive charcoal clearances to see how far such a procedure could be used as an aid to analytical accuracy. Table II shows the effect of successive 5% charcoal adsorptions on two specimens of urine.

It will be observed that one adsorption with 5% charcoal effects the complete clearance of uric acid. Also successive adsorptions do not appreciably affect the phosphate, amino acid and ammonium contents. Creatinine is not readily adsorbed. After the first adsorption the total acidity remains practically constant.

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Table II.

Amounts calculated to one litre.—5% purified charcoal added, allowed to stand for ten minutes, and filtered.

Specimen 1.

Ads.	pH.	Phosphate, mgrm. P.	Total N., grm.	Creatinine, mgrm.	Uric acid, mgrm.	Amino acid, mgrm. N.	Organic acid, c.c. N/10.	Total acidity, c.c. N/10.	P.R.*	Malfatti titration, c.c. N/10.
0	6·3	1,150	11·06	2,000	341	130	620	375	·44	376
1	6·3	1,150	10·50	1,300	*Nil*	122	432	325	·44	375
2	6·3	1,150	10·12	710	„	126	344	320	·45	371
3	6·3	1,150	9·66	27	„	122	344	315	·47	368
					Specimen 2.					
0	5·6	650	...	1,150	331	105	216	230	·63	343
1	5·6	630	...	527	*Nil*	109	176	195	·65	350
2	5·5	620	...	166	„	99	84	193	·71	343
3	5·5	590	...	0	„	95	92	195	·71	336

* N/10 KOH titration to pH 7·8 phenolphthalein
N/10 HCl titration pH 7·8 to pH 4·5 : B.D.H. 4·5 indicator

The effect of the organic acid titration will be referred to later. The slight difference in the pH of the adsorbed and unadsorbed urines in the two examples given is exceptional; in most of the adsorbed samples a distinct reduction in acidity (pH) was noted.

Uric Acid.

The state of purin bodies in the urine causes many reactions referable to the pH. To this can be ascribed the so-called iodine number of urines reported by Weltmann (23), and also probably the curious silver nitrate reactions recorded by Buscaino (24) in mental disorders. In a work to be published on thiosulphate excretion by one of us (S. A. M.) and Dr. Mary Barkas it was found that thiosulphate could be accurately titrated with iodine solution in urine after charcoal adsorption—the interference in unadsorbed specimens depending both on the purin content and the pH of the urine in question.

In addition to the experiments noted, it was found that uric acid was completely removed from a series of urines of varying hydrogen ion concentrations (pH 4·5–pH 7·2) by one 5% charcoal adsorption. Further it was found that hippuric acid was removed up to 80%, and this adsorption could be associated with the more alkaline pH. A saturated solution of hippuric acid adjusted to pH 5 with N/10 KOH, after adsorption had a pH approximating 7·0.

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PHOSPHATES, AMMONIUM + AMINO ACIDS, AND AMINO ACIDS.

The inappreciable effects of adsorption on the phosphate content of urines, determined by the colorimetric method of Briggs (25), was further confirmed on a large series of urines of varying pH over the range of ordinary urinary reaction. The constancy of the Malfatti formol titration, and the amino acid by Folin's β-naphthoquinone sulphuric acid method (26) under the same conditions was also confirmed. In each case the absence of colour and interfering substances renders the estimation more satisfactory.

PHOSPHATE RATIOS.

Reference to Table II will show that successive adsorption effects a change in the so-called phosphate ratios as represented by—

$$\frac{\text{titration with N/10 KOH up to pH 7·8}}{\text{titration with N/10 HCl from pH 7·8 to pH 4·5}}$$

There is still no relation between this figure and the actual amount of the phosphates present, and still but rough correspondence with the urinary pH. If the phosphate ratio be taken as the ratio of acid phosphate to the total phosphate as actually determined, and the figure for the titration up to pH 7·8 be taken to express the amount of acid phosphate, in the first case the ratio drops from 1 to 0·85 for a urinary pH 6·3, and in the second case both ratios would indicate that all phosphate was present in the monobasic form at a pH of 5·5. There is still marked interference in the titrations and the investigation of a number of phosphate ratios declared on the basis of the actual phosphate concentration indicates that the so-called phosphate ratio procedure is totally unnecessary and fallacious, and that the pH of the urine is sufficient in itself to denote the ratios of the phosphates present. At a pH less than 5 all phosphate exists in the acid form, beyond which it has exerted its full buffer capacity, the urine has reached its limit of acidity and the organism tends to acidity. The variations in pH and the associated total phosphate concentration are the factors of importance. The so-called "phosphate ratio" is concerned with relatively unimportant dietetic factors, which mask any resemblance to the actual proportions of mono-basic and di-basic phosphates present. In the above titrations methyl orange is generally used for the acid titration, but in this work it has been replaced by the more efficient 4·5 "phosphate" indicator (B.D.H.).

THE "ORGANIC ACID" TITRATION (VAN SLYKE AND PALMER).

This estimation is carried out in the following manner:

To a quantity of urine 2% finely powdered calcium hydroxide is added, and after stirring and allowing it to stand for 15 minutes

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the mixture is filtered; in this process carbonates and phosphates are removed. Of the filtrate 25 c.c. are transferred to a 150 c.c. cylindrical glass vessel, and 0·5 c.c. phenolphthalein (1% solution) and N/5 HCl added until the pink colour is just discharged. 5 c.c. of 0·02% Orange IV in alcohol are added and the mixture titrated with N/5 HCl until the red colour is the same as that of a standard made with 5 c.c. Orange IV solution, and 0·6 c.c. N/5 HCl made up to 60 c.c. in a similar cylindrical vessel. The final comparison is made with both solutions at the same volume. The figure for the titration from pH about 8 phenolphthalein to 2·7 Orange IV minus the 0·6 c.c. added to the standard is calculated in terms of N/10 HCl *per cent.* or *per diem.* The titration includes organic acids, creatine, creatinine, and a small amount of amino acids. Normally the excretion for 24 hours corresponds to 280–750 c.c. N/10 HCl or about 8 c.c. per kilo body weight, corrected for creatinine 240–600 c.c. *per diem.*

In diabetic acidosis values from 20 to 180 c.c. per kilo. body weight have been observed.

The method seemed specially attractive for the investigation of mental disorders in relation to disordered metabolism and defective oxidative reactions, *i.e.*, the excretion of β-hydroxybutyric, aceto-acetic, and lactic acids. Further it seemed possible to gauge the nature of the mixture of organic acids by reason of their dissociation constants, and titration to a series of hydrogen ion concentrations between pH 8 and 2·7, as applied to the examination of fruit juices by Goiffon and Nepveux (27). A series of communications have been made by Laignel-Lavastine and Cornélius (28), (29), (30) on the results obtained with anxiety and depressed cases. They record an increased excretion of organic acids as determined by titration, the excretion being more marked with increasing alkalinity of the urine. Further, Goiffon (31) records an increased excretion of organic acids following alkalosis induced by bicarbonate administration. We have not been able to confirm any of these findings. As will be shown later, in our experience the urinary reaction of anxiety and depressed cases is unduly acid, also when adequate correction is made for dietetic and interfering factors, there is no marked increase in the " organic acid " output. Lastly, the organism promptly excretes bicarbonate following alkali administration and the increase of organic acids reported by Goiffon and probably that reported by Laignel-Lavastine and Cornélius is nothing but excreted *bicarbonate which is not cleared* by the treatment with lime, and therefore included in the organic acid titration. We have confirmed the latter fact by experiment and actual determination of the bicarbonate on urines thus treated. Urine of

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pH 7·4 may contain the bicarbonate equivalent of 360 c.c. N/10 per litre, whilst at pH 6 the content is negligible, 10–15 c.c. per litre. Palmer in a later paper (16) points out the bicarbonate error of the original organic acid titration and recommends the preliminary acidification of urines tending to alkalinity.

Further, it is clear that considerable correction is necessary for uric acid, hippuric acid, creatinine, glycocoll, factors concerned with diet, if it is desired to gauge the amount and nature of the more important aliphatic acids present. The following table (III) gives the results taken from the analysis figures of a large number of urines in a series showing the proportion of the organic acid titration that is accounted for by relatively unimportant dietetic and other factors.

TABLE III.

Specimen.	Total titration per litre, pH 7·8 to 2·7.	Creatinine.	Uric acid.	Glycocoll (60%).*	Corrected.
1	360 N/10 HCl	96·4	34·0	31·3	218·3
2	560 ,,	114·9	34·0	49·4	361·7
3	700 ,,	151·2	79·5	35·1	434·2
4	760 ,,	159·4	48·6	35·4	516·6
5	720 ,,	139·1	59·5	32·0	489·4
6	640 ,,	146·3	52·3	30·7	410·7
7	620 ,,	176·9	40·6	55·6	346·9
8	420 ,,	96·2	33·3	34·3	256·2
9	344 ,,	93·6	32·4	23·3	214·7
10	400 ,,	88·5	39·4	27·5	244·6

* Over this range glycocoll is only 60% titrated. The above figures need further correction for the hippuric acid content, which was not estimated.

Reference to Table II will show that after adsorption with charcoal the organic acid titration reaches a fairly constant figure, following the removal of uric acid, hippuric acid and a proportion of the creatinine. Salts of aliphatic acids and amino acids are not affected by charcoal adsorption. It may be possible that a more accurate organic aliphatic acid figure may be obtained by preliminary adsorption of the urine with charcoal, determination of the organic acid titration, and correction by actual determination of the remaining creatinine and glycocoll. In its present condition the method can only serve as a rough indication of organic acid excess in marked ketosis in which there is considerable excretion of β-hydroxybutyric acid, etc. The results obtained with the modified technique, and with fractional titration, will be recorded at a later date.

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SUMMARY.

In view of the communications on urinary acidity and its relation to respiratory phenomena to follow, it may be that the determination of urinary acidity may have greater significance than heretofore in the investigation of mental disorders.

The factors concerned with urinary acidity have been reviewed, the methods for their determination revised, and certain fallacies regarding the estimation of total acidity and organic acid content noted. It has been shown that the increased excretion of organic acids with alkalosis (reported by the French observers), and in depressive psychotic conditions, is not correct, and arises from faulty principles of technique.

A preliminary charcoal adsorption of urine specimens is suggested to increase the ease and accuracy of certain estimations; also, by this means it may be possible to differentiate the organic acid titration between exogenous organic acids (uric, hippuric acids), and the more important aliphatic acids (aceto-acetic, β-hydroxybutyric and lactic acids).

We would express our indebtedness to the Director of the Laboratory, Dr. Golla, for his unfailing interest in this work, and to our Laboratory and Hospital co-workers for their helpful co-operation in obtaining normal and pathological specimens.

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Part II.

The Significance of Urinary Reaction in Psychotic Subjects.

By S. A. Mann, B.Sc., F.I.C., and R. G. B. Marsh, M.R.C.S., L.R.C.P., D.P.M.

In the normal subject the reaction of the urine denotes the tendency to reaction change of the blood and organism—a tendency which is adjusted by the respiratory mechanisms. To maintain a constant blood pH and $CO_2/NaHCO_3$, the kidney retains or rejects base and the lungs increase or decrease acid (CO_2) output, these compensatory processes being interdependent. With a definite relationship between urinary acidity, blood alkali reserve and alveolar air CO_2 tension the ratios are maintained. Urinary reaction represents the acid or alkaline "pressure" on the organism. The reaction of the blood and tissues depends on the adequacy of respiratory adjustment: in fact, as Henderson says (1), "low pH (acidity) in a fluid buffered like blood can never be due immediately to any other cause than relatively depressed breathing."

The influence of ingested acid and alkali on urinary reaction is well known, and the respiratory response will be referred to in detail later. The influence of diet is also well known. The urinary reaction with appropriate respiratory adjustment is well illustrated by the following curves (Fig. 1), shown by Hasselbalch (2).

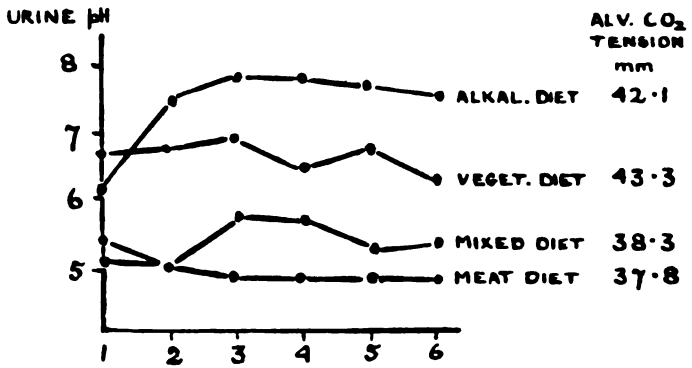

Fig. 1.—Showing the influence of diet on the urinary pH and the alveolar air CO_2 tension (Hasselbalch).

According to the diet, whether acid or alkaline, the reaction of the urine is also acid or alkaline and there is a definite respiratory response. Assuming perfect adjustment by the respiratory

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centre, the respiratory response will be in perfect rhythm with changes in the blood alkali reserve, and according to Hasselbalch the change in blood pH is negligible. In any case the tendency to blood pH change with varied diet is least in omnivorous mammals and most in Herbivora (3). The significance of this point lies in the fact that the body reaction in these animals caused by diet change is associated with reversed drug and endocrine reactions similar to those that may be observed with cases of mental disorder (4).

The tides following food ingestion in the normal subject show close correspondence between urinary pH and alveolar air CO_2 tension. But the urinary reaction may also be varied by altered ventilation, and during sleep when depression of the respiratory centre occurs, the alveolar air CO_2 content is greater (5), the acid " pressure " of the organism increases, the pH of the urine falls (6), and the blood pH also tends to acidity (7, 8). There is a definite urinary tide associated with sleep; this is accompanied by decrease of volume, chloride content but increased acid factors. Urinary acidity also follows the breathing of air with increased CO_2 content. Haldane (9) in his short-period experiments was unable to note any corresponding increase in the blood alkali reserve, whereas Henderson (1, 10), using air with CO_2 to stimulate respiratory activity, refers to its action as " calling back alkali into the blood."

Conversely there may be tides of urinary alkalinity associated with increased respiratory activity. A rise in urinary pH (alkalinity) follows voluntary over-breathing (11), and the hyperpnœa associated with hot baths (12), with conditions of fever (13), and with the attempt to adjust body temperature in warm and very moist external surroundings (14).

Summing up these results in terms of laboratory findings, it is obvious that for the maintenance of constant body reaction *there must be perfect correlation between urinary acidity, blood alkali reserve, and alveolar air CO_2 tension*, or, in general terms, between the renal and respiratory compensatory mechanisms.

A considerable amount of work has been done on the urinary tides and urinary reaction in normal subjects and psychotic patients, and this, in view of the above facts, appears to indicate conclusions of some importance. The comparison of the tides will be published later, and in this communication only the investigation of urinary reaction in psychotic patients and its significance will be recorded.

It has long been noticed that associated with certain types of mental cases urine volume is scanty and the specimens show a high degree of acidity on ordinary diet; in a large number of such cases the acidity reaches the limit of renal acid excretion (15).

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Whereas the normal subject shows definite reaction tides during the day and acidity by night, with a marked adaptability to acid and alkaline changes, the psychotic tends to maintain a flat level of acidity by day and night, and in some cases to show a reversal of these acid and alkaline tides. Further investigation showed that this low pH occurred irrespective of lowered volume, and was not merely a concentration effect. The average pH of 24-hour urine specimens in normals is about 6, and the average volume 1500 c.c. The following figures taken from the laboratory records of 3 cases of certified melancholia illustrate the reactions and volumes of urines typical of a large number of psychotic patients; in each case the figures represent the pH and volume for consecutive days.

			CASE 1.					
Volume c.c.	360	450	460	450	920	720	900	1160
pH	4·5	4·5	4·9	5	5	4·9	4·5	4·5
			CASE 2.					
Volume c.c.	850	1060	450	340	970	590	1150	850
pH	4·5	5	4·5	5	5·7	5	4·5	5
			CASE 3.					
Volume c.c.	1350	450	910	640	960	680		
pH	5·5	4·8	5	5	5	5·3		

The following figures show the pH of specimens taken at 2-hour intervals (8 a.m.–8 p.m.) during the day, and the night specimen, in an "acid" case. It will be observed that there is a high degree of acidity by day and a tendency to reversal of the usual day (alkaline) and night (acid) tides, the urine for the greater part being at the limit of acid excretion. The case in question was suffering from an anxiety neurosis of long standing.

—	8–10 a.m.	10 a.m.–12 noon.	12–2 p.m.	2–4 p.m.	4–6 p.m.	6–8 p.m.	Night.
1.2.28	5	4·9	4·9	5	5	4·8	5·7
2.2.28	4·9	4·9	4·9	5·4	4·9	4·9	5·4
5.2.28	5·7	5·1	5	6·6	5·1	4·8	..
6.2.28	5·1	4·8	5	5	5·1	5·2	5·2
8·2·28	5	5	5	5·2	5	5	5·2
9.2.28	5	5	5·2	5·1	5	5	5·2

At least 40 cases (including normals) have been investigated from this standpoint. The figures given indicate the type of high and flat acid level found in the "acid" psychotic cases.

The cases so far are those associated mainly with depressive

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psychoses. Owing to obvious difficulties of the collection of specimens in females, all this work has been done on the male subject.

The causes of such persistent acidity may be:

1. Acid diet.

2. Interference with the renal compensatory mechanism, as with phosphate retention in nephritis (16), or disturbance of the base economy ammonium production as in cases of subacute diffuse glomerlo-nephritis with uræmic symptoms (17).

3. A condition of acidosis associated with inanition.

4. Depression of the respiratory compensatory mechanism, as in sleep.

Diet.—It is impossible to gauge accurately the acid or alkaline effect of given diets by the usual methods of determining the *base* value of the diet, or from the urinary acidity (18), but in order to check any obvious discrepancies, cases were allowed a very liberal and varied diet. The actual quantities taken averaged at 100 grm. protein, 100 grm. fat and 300 to 450 grm. carbohydrate. During this period complete urinary analyses were made. The diet was of an ordinary character, and except for a swing to the alkaline side following diet of obviously greater basic value (*e.g.*, beans, peas), the level of urinary acidity was maintained throughout. Fig. 2 represents the pH values for day and night specimens of an "acid" case, and a contrast case fed on the same diet and approximately the same amounts. On days 2 and 3, 10 grm. of $NaHCO_3$, and on days 7 and 8, 6 grm. ammonium chloride were given with the ordinary diet. It will be noticed that both cases promptly responded to the alkali, but the *acid* case at once swung back to the high level of acidity. The response to acid (NH_4Cl) was not so prompt and marked as in the contrast case.

Renal efficiency.—The cases in general do not show any clinical evidence of renal defect. Moreover, complete urinary analyses have been made in a large number, and there is no evidence of faulty excretion of phosphates, ammonia, etc. Also from time to time blood-urea estimations and renal-function tests have been made, but without evidence of lack of renal function or disease.

Acidosis.—In general the condition implied is the lowering of alkali reserve from any of the usual causes. It must be emphasized that ketonuria is the urinary abnormality more allied to this condition than urinary acidity. In the normally compensating organism the base economy adjustments are such that even in prolonged fasting (15 days) there is no fall in urinary pH (19). There is no evidence of organic acid excess (15), and ketonuria is rare with psychotics in average state of health. Its occurrence is generally associated with their poorly nourished state on admission

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to a mental hospital. Also the cases we have examined show a prompt urinary response to alkali ingestion (5–10 grm. sodium bicarbonate).

Our general experience of alkali reserve values in cases of mental disorder compared with normals and the determination of the alkali reserve of some of the cases under observation does not confirm these observations. However, to decide the point, alkali

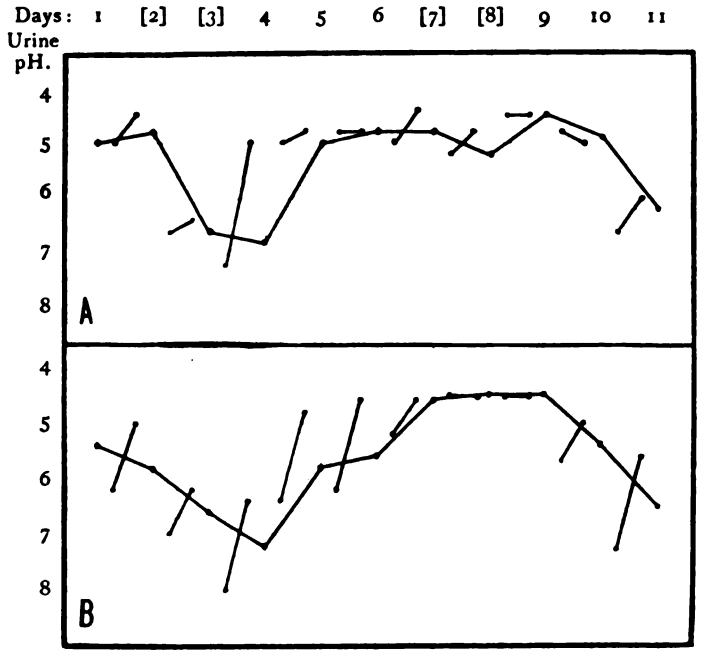

FIG. 2.—Showing pH values for 24 hours' specimen, and night and day specimens of urine in an "acid" case (A) and a contrast case (B), both cases on the same diet.

reserve estimations by the Van Slyke method were made on 20 cases of certified melancholia; the specimens were collected under oil, and the separated plasma saturated with CO_2 at 40 mm. pressure. The results were as follows:

4	cases	above	60	vols. CO_2%.
14	,,	between	50–60	,, ,,
2	,,	below	50	,, ,,

Compared with figures of normal subjects (20, 21), in only 1 case (45·9%) was the lowering of alkali reserve at all marked. As

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will be seen later, if the plasma had been saturated with CO_2 at the same pressure as that of the subject's alveolar air, the figures might have been even higher.

The relation of urinary acidity (pH) with CO_2 alveolar air tension. —With the normal subjects we have investigated under various conditions there has always been the expected correspondence between urinary pH and the alveolar air CO_2 tension. There is much technical difficulty in obtaining alveolar air specimens from psychotic subjects, but a number of cases capable of intelligent co-operation were trained to give samples by the Haldane-Priestley tube method, and it was found there *was no correspondence between urinary pH and alveolar air CO_2 tension.* In fact, cases excreting urine of acidity up to the full limit of renal capacity were found to have alveolar air CO_2 values of over 7%—that is higher than the average normal subject would give under the effect of ingested alkali.

The only conclusion that seems possible from the result of this work on urinary acidity in psychotic patients is that *it indicates a disturbance of the acid-base equilibrium of the organism, associated with depression of the respiratory mechanism*, such as occurs in sleep, with consequent acidification of the organism. The analogy with the acidæmia of sleep is not quite correct, because with sleep there exists a definite urinary tide associated with difference of excretion of urinary constituents. Such differences are not apparent with these "acid" cases by day, but the variation may be on a metabolic phenomenon, to be referred to in a later communication on urinary tides in mental cases.

It so happens that urinary acidity has indicated an important defect that may exist in cases of mental disorder, but it must be emphasized that urinary pH, without determination of its concomitant acid-base adjusting factors, is not a criterion of this defect. These cases give a urinary response to alkali in small dosage, and also to basic diet, and this response may mask the reaction due to the defect. Without full investigation it is impossible to give the incidence of this defect in a psychotic population or in relation to any particular mental classification.

Brief reference to some important points is necessary to indicate how far urinary pH may be of use in the investigation of cases. In the normal person urinary tides coincide with periods of altered ventilation, and with the effects of ingested food. The ventilation effect is generally shown by urinary acidity at night associated with depressed respiration, followed by a morning period of respiratory activity with urinary alkalinity; from noon onwards metabolic effects decide urinary and respiratory reactions. It has

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been stated that the psychotic generally shows a urinary reaction to small doses of alkali and to basic diet. Robertson (22) indicates that in certain cases even the latter response may be lacking, but the tendency of the psychotic is always for the urinary reaction to swing back to its general high level of acidity. The estimation of urinary acidity and alveolar air CO_2 tension for given periods will always indicate the efficiency of respiratory adjustment, but with cases of mental disorder alveolar air specimens are difficult to obtain. It is obvious that the determination of the pH of periodic specimens from waking hours until noon in the fasting subject will afford the best indications of the efficiency of respiratory compensation. With due regard to volume of urine and the general state of the patient during that period, the occurrence of a persistent high level of acidity may be of considerable significance.

Summary.

The investigation of urinary reaction in cases of mental disorder has revealed a condition of acidity which must be associated with a depression of the respiratory compensatory mechanism of the acid-base equilibrium of the organism.

In conclusion we would express our indebtedness to the Director of the Laboratory, Dr. F. Golla, for his close association and interest in this work, and to Dr. G. F. Barham, Medical Superintendent of Claybury Mental Hospital, for his interest and permission to use the clinical material available.

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PART III.

The Respiratory Regulation in Psychotic Subjects.

By F. GOLLA, F.R.C.P.Lond., S. A. MANN, B.Sc., F.I.C., and R. G. B. MARSH, M.R.C.S., L.R.C.P., D.P.M.

THE preceding studies on the acid-base equilibrium in psychotics have made it evident that the failure to adjust must be attributed in the first instance to an inadequacy of the respiratory compensatory mechanism, and can be in no sense attributable to either a deficiency in the buffering power of the blood itself or to an increased organic acid production (acidosis). We have endeavoured to determine the excitability of the respiratory centre to the stimulus created by CO_2. For this purpose a number of psychotic patients were tested as to the excitability of the respiratory centre to air containing 2% CO_2 and the reaction compared with that obtaining in a number of normal subjects.

METHODS.

The estimation of the total ventilation when dealing with psychotic cases presented special difficulties. The simplest and most accurate method of recording the ventilation is that adopted by Haldane (1). He placed the subject in an air-tight box with the head only outside, an air-tight joint being made round the neck, and the respiratory changes of volume being recorded by a suitable apparatus connected with the box. Such a method is quite unsuitable for the majority of psychotic patients on account of the alarm occasioned by confining them in the narrow limits of the box, which results in a great disturbance of respiration. Any method depending on the collection of the expired air in a plethysmograph was found to be open to the grave objection that the filling of a sufficiently large plethysmograph could not be accomplished without an appreciable back-pressure on the lungs during expiration. The respiratory mechanism is extremely sensitive to air-pressure, and a type of forced breathing is engendered which vitiates an experiment intended to measure the slight changes produced by the chemical regulation of respiration. A further problem is raised by the difficulty of the attachment of the respiratory apparatus to the subject. Experience with the conventional mouthpiece in basal metabolism experiments has convinced all workers in this Laboratory that even with trained subjects there invariably ensues a type of over-ventilation which can easily be

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demonstrated by estimations of the CO_2 in the expired air in successive five-minute periods. During the first period a great washing-out of CO_2 occurs, and estimations of CO_2 in the alveolar air taken before and after a short period of breathing show that a degree of alkalæmia has been established. The use of a mask allowing nasal respiration obviates this source of error in the trained subject, but has a distinctly terrifying effect on many psychotics who, fearing suffocation, breathe as deeply as possible. It must also be premised that such a mask must be fitted with inlet and outlet tubes sufficiently large to allow of very free passage of air, together with far lighter valves than the type generally in use for metabolic experiments.

The ideal apparatus for recording variations in the total ventilation should offer no resistance to ventilation, and be not much greater in capacity than the tidal air volume of a single respiration. It is connected with the subject by an attachment that allows normal nasal breathing, and so comfortable as to produce no psychical effect on respiration. After many trials the apparatus described below was found to satisfy these requirements.

A very light and well-balanced aluminium volume recorder of about 6 litres capacity, floating in a water tank, was divided into two equal portions by an aluminium partition running along its length. The half A served for the expiratory air and the half B for the inspiratory (*vide* Fig. 1). The air-space of each half was connected by 1-in. tubing passing through the floor of the water tank, with the breathing attachment consisting of a glass and metal T-tube of 1 in. diameter (C) furnished with very light Chauveau valves set for inspiration and expiration respectively (D and E). Two second tubes, F and G, of the same diameter (1 in.), connected the air-spaces of the recorder with the outer atmosphere. In order to obtain a continuous record of respiration, it was necessary that when air was expired through E into the expiratory half of the recorder A the tube F connecting this half with the outside atmosphere should be closed, whilst the tube G, connecting the inspiratory half B with the atmosphere, remained open, thus allowing the recorder to rise during expiration and filling B with fresh air. During inspiration the reversed order was observed. Air was inspired from the half B, and the tube G communicating with the atmosphere was closed, the atmospheric tube F was opened, and whilst the recorder fell, it emptied the previously expired air into the room. In order to effect the automatic opening and shutting of the atmospheric tubes F and G during the two phases of respiration, free ends of these tubes were covered by the valve plates, H and I, of an electrically controlled valve. The two valve plates were pivotted on the arms of a lever, which was pressed down at

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one end by the spiral spring S, so that the valve plate H was normally blocking the free end of the tube F on the expiratory side. The other side of the lever was furnished with a soft iron plate which could be pulled down when a current passed through the electro-magnet M, overcoming the resistance of the spring and thus opening F during inspiration and closing G. The inspiratory making and the expiratory breaking of the current to the magnet was effected by means of the tambour P connected by a small tube with the mid-valvular space of the T-tube C, the lever of which made the circuit to the magnet when the membrane of the tambour was depressed by the pull of inspiration, and broke it during expiration. To the free end of the upright of the T-tube was connected a Y-shaped glass tube about an inch long, and on each limb of the Y were affixed two bulbous tubes of soft rubber an inch in length which could be squeezed into either nostril, and accommodating themselves to the shape of the nostril, formed an air-tight joint with the nasal chamber. The weight of the T-piece was supported by a cushion. It was found that when the soft rubber end-pieces were coated with vaseline not the smallest discomfort was experienced, and after a short time their presence was unnoticed—in fact on many occasions a subject would fall asleep whilst breathing through them. The whole system offered no appreciable resistance, and the dead space in the T- and Y-tubes above the valves did not exceed 20 c.c. In order to introduce gaseous mixtures to the inspiratory chamber a box was fitted over the inspiratory valve I, with the lever moving up and down through a slit in the wall of the box lightly packed with cotton-wool. At one end of the box was a tube, X, connected with a large gasometer provided with an electrically driven stirring fan, and at the other end a tube of equal diameter, Z, was open to the atmosphere. When the patient was breathing atmospheric air alone he obtained this through Z. When he was being supplied with a gaseous mixture, this was furnished by pushing the mixture across the valve opening from X to Z, the gas being drawn in during inspiration through the tube G. To avoid psychical disturbances the gasometer was placed outside his field of vision. With such dilute mixtures as 2% CO_2, there is, of course, no subjective sensation. The recorder inscribed its movements on a smoked drum by means of the lever L, and at the end of an experiment the record was calibrated in the usual manner.

The Response of the Respiratory Centre to CO_2

For purposes of estimating the excitability of the respiratory centre to CO_2, the minimum percentage of CO_2 in the atmosphere

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which would cause an easily demonstrable increase in the ventilation of normal subjects was determined. The standard mixture was an atmosphere containing 2% CO_2, though this is considerably above the *limen* of excitability of the respiratory centre. Of twelve normal cases examined all responded to a 2% CO_2 atmosphere by increased ventilation, the mean increase being about 20%. Fig. 2 gives a typical record. The curve is calibrated in intervals representing 100 c.c. by the abscissæ.

Twenty psychotic patients were examined. Six of these were certified cases of katatonic dementia præcox from Claybury Mental Hospital, and the remainder early unclassified cases from the Maudsley Hospital, in which anxiety and depressed states predominated. A case of dementia præcox gave a small increase of ventilation (9%) to the CO_2 mixture, and one of the Maudsley cases, a man recovering from an anxiety state, gave a normal response. None of the other psychotics showed any increase of ventilation with the 2% CO_2 mixture. Several were examined repeatedly both before and after meals. We have here a direct proof that the failure of the acid-base compensatory mechanism is associated with a depression of the excitability of the respiratory centre to CO_2.

The Response to the Ingestion of Sodium Bicarbonate.

A dose of 10 grm. of sodium bicarbonate was administered to a number of normal subjects and psychotics. This dose should raise the alkali reserve of the blood about 5% according to the formula of Palmer and Van Slyke (2, 3), when the effect on the alkali reserve $= \frac{38 \times \text{grm. } NaHCO_3}{\text{weight in kilos}}$ on the assumption of an equal

Table I.—*Showing the Response of a Normal Subject to a Single Dose of Bicarbonate.*

Normal (I) 10 grm. $NaHCO_3$ at 11 a.m.

Time.	% CO_2 in alveolar air.	Urine.			
		Volume c.c.	pH.	$NaHCO_3$, grm.	Chlorides, grm. NaCl.
11 a.m.	6·5	27	4·8	..	·431
11.15	6·4	21	5·0	..	·305
11.30	6·3	18	5·0	..	·291
11.45	6·6	24	8·5	·117	·279
12 noon	6·9	46	8·4	·425	·418
12.15 p.m.	6·8	26	8·4	·192	·243
12.30	6·5	21	8·4	·124	·216
12.45	6·5	13	8·4	·071	·121

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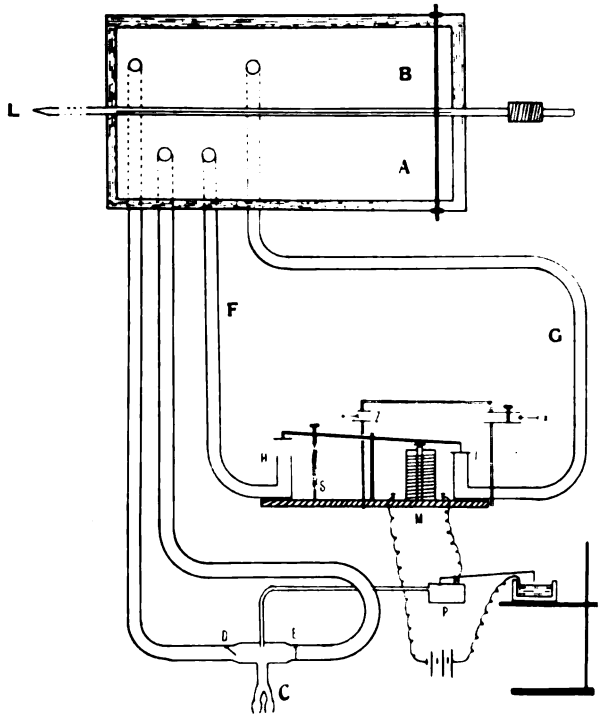

FIG. 1.—Diagrammatic representation of the electrically controlled plethysmograph. For description *vide* text.

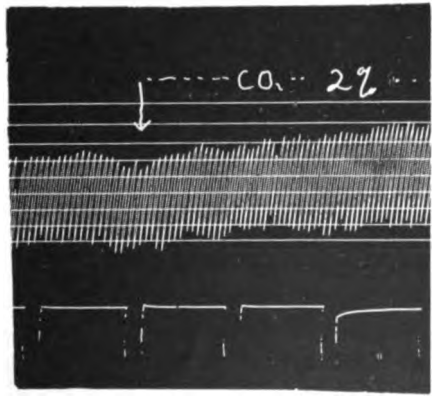

FIG. 2.—Typical record of normal ventilation response to 2% CO_2. Abscissæ represent 100 c.c. graduation.

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diffusion of $NaHCO_3$ through the body-fluids estimated as 700 c.c. fluid per kilo body-weight. All the normal and the psychotic cases responded to the bicarbonate with an increased urinary pH. Table I gives the response of a normal subject to a single dose. Table II shows the response of a normal subject to a repeated

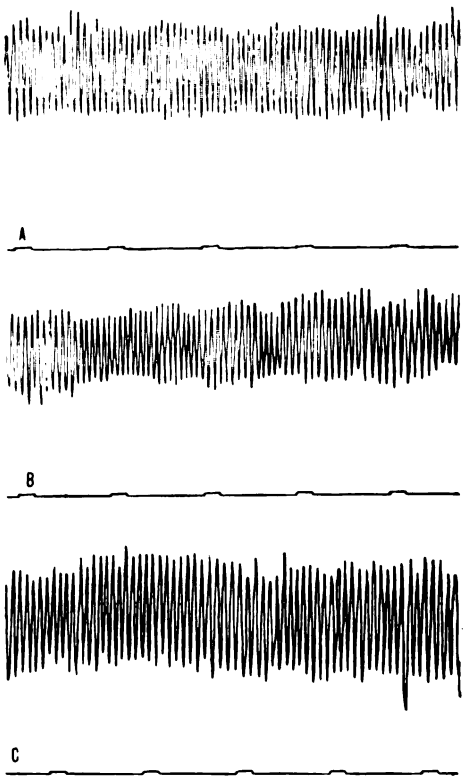

FIG. 3.—Showing ventilation following sodium bicarbonate ingestion in a normal subject. A, before; B, one hour after; C, two hours after.

dose of bicarbonate. Tables III and IV show the responses of two psychotic subjects to the same dose.

It will be noted that there is no significant difference between the urinary pH response of the normal and the psychotic subjects.

Turning to the respiratory response there is a marked difference. The initial alveolar air tension in the " acid " psychotics is, as might be expected, abnormally high. In both classes the ingestion of bicarbonate is followed by an increased alveolar CO_2 tension.

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TABLE II.—*Showing the Response of the Normal Subject to a Repeated Dose of Bicarbonate.*

Normal (II) 10 grm. $NaHCO_3$ at 10.15 a.m., repeated after one hour at 11.15 a.m.

Time.	% CO_2 in alveolar air.	Urine.				
		Volume c.c.	pH.	$NaHCO_3$, grm.	Chlorides, grm. NaCl.	Phosphates, mgrm. P.
10.15 a.m.	5·4	11·5	4·8	..	·065	6·45
10.30	5·55	9·0	4·9	..	·081	6·5
10.45	5·52	11·5	5·2	..	·094	5·38
11.0	5·70	22	8·4	·145	·118	5·42
11.15	6·05	27	8·6	·281	·112	6·5
11.30	5·85	19	8·6	·281	·061	5·5
11.45	6·17	24	8·6	·403	·061	5·7
12 noon	6·40	31·5	8·6	·554	·069	8·2
12.15 p.m.	5·70	30	8·6	·516	·069	9·25
12.30	5·72	29	8·6	·513	·068	11·4
12.45	5·65	21	8·6	·371	·053	10·5

TABLE III.—*Showing the Response of the "Acid" Psychotic Subject to Sodium Bicarbonate.*

Case I (T.*) 10 grm. $NaHCO_3$ at 10.40 a.m.

Time.	% CO_2 in alveolar air.	Urine.				
		Volume c.c.	pH.	$NaHCO_3$, grm.	Chlorides, grm. NaCl.	Phosphates, mgrm. P.
10.40 a.m.	6·55	..	..	..	..	..
11.50	6·35	25	4·8	..	·140	5·05
11.10	6·85	21	6·8	..	·143	7·3
11.30	6·85	38	8·6	·33	·167	7·9
11.50	6·85	27	8·8	·36	·097	10·6
12.10 p.m.	6·85	26	8·8	·31	·094	14·7
12.30	6·9	18	8·8	·20	·065	11·2
12.50	7·3	16	8·8	·12	·061	12·0
1.0	7·4	..	..	..	..	..

* A man, æt. 44, who has suffered with an anxiety neurosis for many years which has recently led to an attack of melancholia during which he developed suicidal tendencies, and in which ideas of unworthiness and of the hopelessness of the future are predominant. He left the hospital where he was a voluntary boarder and has since committed suicide.

In the normal when the excretion of bicarbonate has brought the alkali reserve down to approach the resting value there ensues a corresponding drop in the alveolar CO_2, in the psychotic the alveolar CO_2 tension remains high. If the subject be connected with a plethysmograph we find, as illustrated in Fig. 3, that in the normal the respiratory centre responds to the increased pH tension

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TABLE IV.—*Showing the Response of the "Acid" Psychotic Subject to Sodium Bicarbonate.*

Case II (D. J—*) 10 grm. $NaHCO_3$ at 10.50 a.m.

Time.	% CO_2 in alveolar air.	Urine.				
		Volume c.c.	pH.	$NaHCO_3$, grm.	Chlorides, grm. NaCl.	Phosphates, mgrm. P.
10.40 a.m.	7·1	143	4·7	..	·970	84
10.50	7·1	..	..	..	..	..
11.0	7·55	21	4·8	..	·156	11·6
11.20	7·475	16	6·6	..	·096	7·4
11.40	7·45	30	7·6	·076	·156	11·7
12 noon	7·425	30	7·8	·09	·150	14·3
12.30 p.m.	7·525	28	7·2	..	·157	18·1
12.40	7·625	..	..	..	..	..
12.45	7·65	..	..	..	..	..

* A man, æt. 45, of cultured and highly æsthetic tastes, suffering from an anxiety neurosis due to conflict between financial stress and his artistic ideals. Obsessioned with regard to his general health. He showed considerable insight and improved under treatment.

of the blood by a preliminary drop in the ventilation, thus increasing the CO_2 tension to compensate the increase of the alkali reserve in accordance with the Hasselbalch formula. In terms of the actual ventilation (litres per minute) for the normal subject whose record appears in Fig. 3 the measurements of the curve give the following:

—	Rate of respiration.	Average respiration.
Before $NaHCO_3$ . . .	16 per min.	642 c.c., 10·28 litres per min.
1 hour after $NaHCO_3$ . .	15 ,, ,,	566 ,, 8·6 ,, ,,
1½ hours ,, ,, . . .	14 ,, ,,	656 ,, 9·1 ,, ,,
2 ,, ,, ,, . . .	14 ,, ,,	758 ,, 10·46 ,, ,,

When the alkali reserve has been brought to normal limits by the urinary excretion of bicarbonate the augmented CO_2 pressure stimulates the respiratory centre to get rid of it by hyperpnœa. In the psychotic there is at first a depression of the ventilation corresponding to that found in the normal subject, but the lowered excitability of the respiratory centre does not admit of its responding to the increased CO_2 pressure within the time-limits of the experiment once the alkali reserve has been lowered approximately to normal.

It appears, therefore, that whilst the respiratory centres of both normals and psychotics respond equally by decreased activity to a lowering of the pH of the blood, the respiratory centre of the psychotic is relatively inexcitable by CO_2.

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Discussion.

The present observations on the activity of the respiratory centre represent the latest link in the chain of observations emanating from this Laboratory. All have as a common factor a disturbance of the acid-base equilibrium in the psychoses. Most of the evidence has been discussed at length in previous papers, and it is here only necessary to summarize the successive stages in attributing the primary cause of these disturbances to the depressed activity of the respiratory centre.

The earliest investigation of the activity of the vegetative nervous system in the psychoses, and a study of the carbohydrate metabolism in the psychotic as evidenced by the blood-sugar curve following ingestion of glucose were undertaken by Mann (4), and the results obtained were such as would be consistent with a lowered pH of the organism. Attention was next paid to the vasomotor responses to food ingestion, the reflex responses to heat and cold and postural stimuli, and Robertson (5, 6) found a complete inversion of the normal vasomotor response in most of the psychoses. In the light of our knowledge of the influence of ionic equilibrium on the responses of the vegetative nervous system, it appeared that a shift of the acid-base equilibrium to the acid side would again furnish a possible explanation of these abnormalities. It was therefore decided to investigate the response of the psychotic case to the disturbances of acid-base equilibrium caused by food ingestion and gastric secretion. Some preliminary work by Robertson (7) showed that the ingestion of food is not followed by the normal alkaline tide in 70% of the psychotic patients examined. In the two papers (8, 9) preceding this one in the present number of the *Journal of Mental Science*, and in a study to be published in the *Mott Memorial Volume* (10), Mann and his co-workers have furnished conclusive evidence that a failure of compensation of the acid-base equilibrium exists in the psychoses, and that this condition closely resembles that obtaining during sleep in the normal individual. Furthermore a study of the preceding evidence indicates that this failure in compensation must be ascribed to the CO_2 regulation, and not to a condition of acidosis. Evidence is adduced that the abnormality of CO_2 regulation is merely the expression of a lowered excitability of the respiratory centre to the stimulating effect of CO_2.

We have, then, proof that in the psychotic there exists a definite depressed excitability of the medullary centre for respiration. This may account for the abnormalities of carbohydrate metabolism, the inexcitability to insulin, and the inverted vasomotor reactions, and possibly as a consequence of this latter factor,

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for certain anomalies of the bodily responses to the emotions. It is clear from our experiments that whilst the respiratory centre of the psychotic is not susceptible to the CO_2 stimulus, it reacts apparently in a normal fashion to the ingestion of bicarbonate in the early stages, though the secondary hyperpnœa by which the accumulated CO_2 is excreted would appear to be absent, judging from the results of alveolar air analysis.

On account of the conflicting views that obtain as to the mode of the chemical regulation of respiration, further consideration of this subject may be postponed whilst some investigations on the pH of the blood in psychoses are being pursued. The significance of the depressed excitability of the respiratory system will, however, decide the direction of further work. It may be that we are dealing with a sign of a general depression of the excitability of the nervous system as a whole due from congenital lack of excitability or toxic depression. Intoxication might be attributable to abnormal products of metabolism or to tissue acidification from deficient oxidation. The resultant disturbance of the acid-base may be of no significance other than this. On the other hand the permanent ionic disequilibrium consequent on a failure of respiratory compensation may in itself be responsible for a general disturbance of cerebral processes; as long ago as 1873 Obersteiner (11) suggested that sleep was due to accumulation of acid products of metabolism in the nerve-cells. It must be clearly understood that the alteration of blood and tissue pH due to failure of compensation is of an entirely different nature to the acidosis produced by organic acids, with an intact compensatory mechanism such as occurs in the diabetic up to the final stage when compensation breaks down.

There appears little ground for supposing that the depression of the respiratory mechanism is in any sense a *pari passu* manifestation of the general disorder of conduct that we term "insanity." Between an anxiety type such as Case 1 (p. 449) and the group of katatonic dementia præcox cases and the various excited and depressed melancholics investigated, there is no obvious common factor of conduct giving rise to the same type of bodily manifestation. Furthermore, if the inverted vasomotor phenomena recorded by Robertson be due to this disturbance of acid-base equilibrium, the inverted type persists independently of remissions and exacerbations of the disorders of conduct, and is spread over the whole class of cases that are actually or potentially certifiably insane. On the further investigation of this point all remains to be done—we have yet to trace the depression of the respiratory compensation through the phases of remission and exacerbation of conduct disorder that may occur in any one individual. We have

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purposely avoided any attempt at the present stage of classifying our cases of psychosis, nor do the number of cases observed justify any expression of opinion as to the universality of the disturbance investigated in the multiple forms of disorder of conduct that are grouped together as psychoses. As the work here set forth is a preliminary account of a bodily disorder with disorder of conduct, it would be at the present stage of our inquiry undesirable to generalize.

Summary.

1. A new type of automatically controlled plethysmograph is described.

2. While normal cases respond to the inhalation of an atmosphere containing 2% CO_2 by increased respiratory ventilation, of the 20 psychotic cases examined only two showed any respiratory response to the CO_2 mixture.

3. After ingestion of 10 grm. sodium bicarbonate, both normal and psychotic patients respond by a decreased ventilation with an increase of the CO_2 percentage of the alveolar air. In both groups of cases there is a rise of the urinary pH and an excretion of sodium bicarbonate. When the greater part of the bicarbonate has been excreted a rise of the ventilation above that of the resting value occurs in normal subjects, and the CO_2 percentage of the alveolar air tends to fall to resting limits. In the psychotic patient there is no response to the increased CO_2 pressure during the period that it occurs in the normal subject.

4. The interpretation of this depression (obtaining in psychotics), of the respiratory compensation as a factor in the causation of an acid shift of the acid-base equilibrium is discussed.

We wish to express our thanks to Dr. Mapother, Medical Superintendent of the Maudsley Hospital; to Dr. Barham, Medical Superintendent of Claybury Mental Hospital; for giving us facilities to examine patients; to the staff of the Maudsley Hospital for volunteering to act as control subjects: and to Mr. E. Pemberton, Engineer of Hanwell Mental Hospital, for constructing the electrically controlled plethysmograph.

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INVESTIGATION OF THE ACID-BASE BALANCE IN MENTAL CASES, WITH SPECIAL REFERENCE TO EPILEPSY.

By Geoffrey Shera, M.A., M.D., B.Ch.Cantab., M.R.C.S.Eng., L.R.C.P.Lond.,

Pathologist to the East Sussex Mental Hospital, Hellingly, Sussex, and to the Eastbourne Hospitals.

Historical.

In the search for somatic disturbance in connection with the insane, either as a cause or as an effect of mental disorder, the acid-base balance has afforded a field of exploration from time to time. Epilepsy, in particular, has provided material for research on these lines. Bigwood (1) (1924) suggested that the epileptic seizure was preceded by an alkalosis, leading to a lowered blood-calcium content, which, in turn, induced the fit. Marrack and Thacker (2 and 3) (1926) disproved this theory, but found that a high blood-ammonia content obtained at times in epilepsy (4), but was not related to the fit. It was actually a starvation phenomenon. There has been biochemical work on other lines in epilepsy in regard to nitrogen retention (5) on the sugar content, but all with negative results.

More fruitful results have recently (1927) followed the work of Robinson, Russell Brain and Kay (6) on the blood-cholesterol in epilepsy. A definite fall of cholesterol is registered prior to the fit, with a subsequent return to normal.

Notwithstanding the hitherto negative character of the results of acid-base studies in epilepsy, it was thought worth while to investigate a number of cases of unclassified new admissions to Hellingly in respect of their acid-base equilibrium and also to compare them with epileptics, and to investigate the reaction of the blood, particularly the alkali reserve, in relation to the fit.

Actually, some valuable information has been obtained in the course of this investigation, which also throws light upon the value of institutional treatment in the early stages of mental disorder.

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Technique.

It should be stated at the outset that the reaction of the blood as stated in terms of hydrogen ion concentration affords less information than the more searching assessment of the alkali reserve. It is, however, of confirmatory value, and the technique is described as affording a satisfactory alternative to the more expensive hydrogen electrode method.

Austin-Cullen Method of Estimating the Hydrogen-ion Content of the Plasma.

Standards.—The bicolour principle is used—that is to say, the acid and alkaline tubes are made up with phenol red separately and superimposed in the comparator. Buffer standards are unnecessary in this method and the colours are fast. Stability and freedom from temperature effects are additional advantages of the bicolour principle. The standards can be made in any laboratory and are invaluable for media work. However, exactly similar tubes in regard to thickness and diameter are essential. A gauge should be used (supplied by Baird and Tatlock) for testing the diameter.

The standards are prepared as follows:

Required: Phenol red, 0·1% (stock solution); N/100 NaOH (freshly made); N/10,000 HCl; one microburette; test-tubes of exactly similar diameter and thickness; a three-row wooden comparator block of at least 6 tubes.

Procedure: 15 c.c. of 0·1% phenol red are diluted to 200 c.c., yielding a 0·0075% solution. In each pair of standard tubes the total amount of indicator = 2·5 c.c. The total volume of the solution in each tube = 25 c.c.

The table herewith given shows the amounts of 0·0075% indicator solution to be added, also the amounts of acid and alkali respectively for the appropriate pH values:

pH at 38° C.	Alkaline tube.		Acid tube.	
	c.c. of dye.	c.c. of alkali.	c.c. of dye.	c.c. of alkali.
7·0	0·46	24·54	2·04	22·96
7·05	0·50	24·50	2·00	23·00
7·1	0·55	24·45	1·95	23·05
7·15	0·60	24·40	1·90	23·10
7·2	0·65	24·35	1·85	23·15
7·25	0·71	24·29	1·79	23·21
7·3	0·77	24·23	1·73	23·27
7·35	0·84	24·16	1·66	23·34
7·4	0·90	24·10	1·60	23·4
7·45	0·97	24·03	1·53	23·47
7·5	1·04	23·96	1·46	23·54
7·55	1·11	23·89	1·39	23·61
7·6	1·18	23·82	1·32	23·68

The tubes must be sealed. A well-fitting cork and a thick covering of collodion suffices.

Determination of the pH of serum or plasma.—The blood is collected from a vein without stasis. To this end, when the needle is in the vein the tourniquet is relaxed and the arm raised vertically and held there for thirty seconds, keeping the needle in position. It is then lowered, and with hardly any suction blood is aspirated to the extent of 8 c.c. A paraffined centrifuge tube is then taken and the blood runs down beneath liquid paraffin as illustrated on p. 456.

The paraffin rises above the blood and so contact with air is avoided. A few crystals of oxalate have been previously placed at the bottom of the tube, and when the blood is delivered it is mixed by placing the thumb on the end of the tube (A), drawing it up nearly to the surface and then releasing the thumb. This is done repeatedly.

The blood is next spun until clear plasma is seen.

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Adjusted saline solution is prepared thus : 0·9 grm. sod. chloride is dissovled in boiled neutral (pH 7·0) distilled water in 100 c.c. flask, then 10·5 c.c. of ·0075% phenol red solution (see above) are added. The mixture is made up to 100 c.c.

Control solution : A similar solution of salt without phenol red is made.

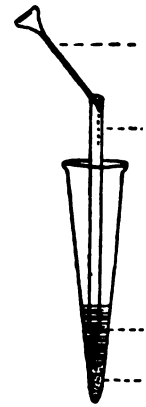
The adjustment : At the beginning of each experiment, after addition of phenol red the solution is covered with liquid paraffin. 1/100 N. NaOH is admitted by capillary pipette until a pH of 7·4 is reached, which is the normal blood pH.

The actual test of the plasma pH : No. 1 tube.—4 c.c of adjusted saline indicator are pipetted under paraffin into a small test-tube (1·5 × 10 cm.). After the addition of 0·2 c.c. of plasma the mixture is gently stirred with a footed glass rod.

No. 2 tube.—A control tube is used in a similar manner, using saline solution *without* the dye.

The liquid paraffin is replaced by melted hard paraffin, which is allowed to solidify. This prevents change of pH due to absorption of aerial CO_2.

A thermometer is inserted in the control tube, and both are brought to a temperature of 39° C. by immersion in water, which is gradually warmed up. When the temperature reaches 38° they are quickly arranged in the comparator block and matched off. Some considerable practice is required for accurate matching.



Estimation of the alkali reserve.—The method used was Van Slyke's plasma bicarbonate method. Plasma was used throughout, and care was taken that the syringe used for collection was carefully rinsed with strictly neutral saline. Venous stasis was avoided as above indicated. Normal ranges are 52–79 vols. CO_2%, with an average of 65·5 vols. CO_2%.

Sellard's acidosis test : Neutral absolute alcohol is required ; also 0·5% phenolphthalein. One c.c. of serum is mixed with 25 c.c. neutral absolute alcohol. A precipitate of proteins occurs and is removed. The filtrate is evaporated after adding phenolphthalein to the extent of a few drops.

Normal sera turn pink on evaporation. In slight acidosis the pink colour is deferred ; in severe acidosis it fails to appear. The test is held to be clinically reliable.

The acidosis ratio of the urine : the ratio $\frac{\text{urea nitrogen}}{\text{ammonia nitrogen}}$ is worked out. The urea is measured by one of the hypobromite methods (we use that of Doremus) and the ammonia by the formalin method. The molecular weight of ammonia being 17, the nitrogen fraction of ammonia is $\frac{14}{17}$ = ·0056%. The nitrogen fraction of urea is $\frac{7}{15}$, = ·466%. The normal ratio = $\frac{\text{urea nitrogen}}{\text{ammonia nitrogen}}$ = 20 : 1. A ratio of 10 : 1 or less indicates acidosis.

Indican estimation.—The urine is extracted with chloroform and then shaken with Obermeyer's reagent (0·2% ferric chloride in conc. HCl) : Chloroform 3 c.c., urine 5 c.c., reagent 5 c.c. Shake for one minute and stand.

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Excess of indican (normally absent) is shown by the development of a Prussian blue colour in the layer of chloroform.

Results.

All experiments were performed twice on the same specimen, and any inconsistent results were discarded. Seven volunteers, including the laboratory staff, supplied normal controls. The results are summarized as follows:

—	Normals.		New admissions (unclassified).		Chronic cases (unclassified).		Epileptics.	
	Number tested.	Average reading.	Number tested.	Average reading.	Number tested.	Average reading.	Number tested.	Average reading.
Venous plasma pH	7	7·364	28	7·314	30	7·326	47	7·348
Alkali reserve	7	68·83	25	57·73	31	56·65	48	66·009

Estimated by the Van Slyke method as volumes of CO_2 capacity *per cent.*

Epilepsy.—It will thus be seen that, as compared with the normal subject, the new admissions and chronic cases show *a distinct average tendency to acidosis*, whereas the epileptics deviate but little from the normal.

This points to epilepsy as a disorder in which the disturbance of nutrition and metabolism generally is decidedly *less* than that of the average mental patient who definitely shows signs of mild acidosis. A number of further observations were conducted in addition to the above in respect of the variation of the alkali reserve (a much more delicate indicator than the plasma pH) in epilepsy in relation to (*a*) meals, (*b*) fits, (*c*) *status epilepticus*.

(a) *In relation to meals*, five three-hourly curves worked out. No pathological variations occurred. These included two cases of epilepsy, two of dementia præcox, and one of general paralysis.

(b) *In relation to fits*, the following data are significant:

Case	Date of nearest fit.	Date of test.	No. in preceding four weeks.	V.S.	pH.
H—	Oct. 4, 1927	Oct. 3, 1927	1	59·39	7·35
H—	Oct. 5, 1927	Oct. 4, 1927	9	75·19	7·325
S—	Oct. 6, 1927	Oct. 7, 1927	9	74·2	7·35
B—	Oct. 9, 1927	Oct. 10, 1927	3	83·4	7·325
B—	Oct. 15, 1927	Oct. 14, 1927	2	82·3	7·325
T—	Oct. 20, 1927	Oct. 21, 1927	10	65·2	7·325
E—	Oct. 27, 1927	Oct. 27, 1927	10	53·5	7·35
D—	Dec. 12, 1927	Dec. 12, 1927	7	70·7	7·35
D—	Dec. 14, 1927	Dec. 14, 1927	7	70·0	7·35
D—	Dec. 15, 1927	Dec. 15, 1927	7	67·1	7·35

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It is thus obvious that far from there being any question of acidosis before or after the fit, the alkali reserve and pH are well up to normal. There is in the majority a tendency to alkalosis.

(c) *Status epilepticus.*—A specimen taken during *status epilepticus* whilst the patient was still dazed showed a reading of 67·2 vols. CO_2 capacity *per cent.* In view of previous results this is not surprising.

We are thus brought to the conclusion that there is no marked deviation from the normal alkali reserve in epilepsy, which is a remarkable tribute to bodily powers of adjustment under severe stress, and confirms the findings of Marrack, Thacker and Lennox.

Acidosis in new admissions.—The question of acidosis in new admissions has been investigated *viâ* the blood, and as we have seen, the average tendency of the alkali reserve is towards the low side. The problem was likewise approached from another angle—that is, from the urine. One fallacy had to be guarded against, namely renal disease, both in respect of acidosis and in respect of a parallel investigation in regard to protein intake.

A series of 34 cases showed: Low protein intake (urea less than 1·5%; normal 2% or over), 15 cases, = 44·1%. Renal disease as evidenced by albumen and casts, 3 cases = 8·8%. Indican (intestinal toxæmia), 19 cases, = 52·9%.

The high percentage of cases showing low protein intake and intestinal toxæmia is very significant. It confirms clinical observation as to the evils arising from semi-starvation and constipation, both so common in the untreated mentally diseased.

There is little doubt that the improvement in mental condition a few weeks or months after admission is due in no slight degree to the way these two factors are influenced by proper mental nursing, and affords statistical evidence of the necessity for such nursing.

These 34 cases showed: Abnormal acidosis ratio in 4 cases = 11·7% (9 : 1, 6·65 : 1, 9·6 : 1, 9·02 : 1). Ketosis in 6 cases, = 17·6%. Sellard's acidosis test was positive in 2 cases, = 4·8%.

Hence this series show a small but definite percentage of relatively severe acidosis apart from the general average of mild acidosis.

At Cardiff Dr. Goodall found a heavier incidence of severe acidosis in new admissions. Only 4 out of 32 cases showed a Van Slyke of over 53 vols. CO_2 and 28 ranged from 53–42 vols. It must be remembered, however, that malnutrition is more common in the urban population whence these latter results accrue than in such a district as East Sussex, which is mainly agricultural.

What it comes to is this—that in new admissions previous malnutrition as a result of difficulty in feeding may have led to starvation acidosis. On the other hand, this will not explain

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why the chronic case should show a tendency to acidosis. There seem to me to be several possible explanations. One is that some depletion of the alkali reserve is an accompaniment of chronic mental disorder with the exception of epilepsy, possibly as a result of toxæmia (dental or alimentary), or as a result of disordered endocrine metabolism. At any rate, this alteration affords one more instance of faulty metabolism, and in order to guard the patient from further somatic damage the building up of the alkali reserve should, where indicated, be undertaken by means of alkaline treatment. The procedure followed at Cardiff, whereby all new admissions are investigated in this connection, seems entirely admirable. Doubtless it is being followed up in a therapeutic manner.

I am indebted to Dr. F. R. P. Taylor, Medical Superintendent of the East Sussex County Mental Hospital, for permission to publish these investigations, and to the medical officers and to Mr. Wallace Reed for much valuable assistance, and to Dr. Geoffrey Linder, of St. Bartholomew's Hospital, for much valuable help in technique on several occasions.

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DEMENTIA PRÆCOX AND VITAMINS.*

By W. Rees Thomas, M.D., M.R.C.P., D.P.M.,
Medical Superintendent, Rampton State Institution.

The progress made in recent years in the study of vitamins has been phenomenal in that many disorders previously regarded as of infective origin have been shown to arise from deficiency of some particular item of the diet, which quantitatively is infinitesimal in relation to the total bulk of food taken. Although some five vitamins have been identified and their value established, as yet only one has been isolated in pure form and has acquired the distinction of a chemical formula. This vitamin—fat-soluble D—has a powerful influence in the prevention and cure of rickets; and its relation to dentition and caries of the teeth has been established by careful and prolonged experiment. So far as we know at present vitamin D can be obtained by the body from three different sources. The effects on health of sunlight and ultra-violet rays on the skin have been shown to arise from the capacity of the cells of the sebaceous glands of the skin to manufacture under these influences, from the various sterols they contain, a substance—vitamin D—which is then picked up by the blood-stream and distributed throughout the body. The second source is the fat taken in the diet, butter and cream being particularly rich in this respect. It has also been proved that food exposed to ultra-violet radiation acquires in an added degree the capacity to ward off the ill-effects of vitamin D deficiency. The third and, from the point of view of accurate laboratory control, the most important source is that in the form of ergosterol, a compound related to cholesterol, produced by extraction from yeast and other substances. Ergosterol can be obtained in more or less pure form, and after being subjected for a definite time to irradiation by ultra-violet rays becomes converted into a substance which has all the effects of vitamin D.

At present we know very little of the causative relation of any vitamins to mental and nervous disorder, but it is known that a form of multiple neuritis is part of the symptom-complex of beri-beri arising from deficiency of the water-soluble vitamin B. Vitamin D is not to our knowledge associated with any dysfunction of the nervous system, unless it be that the irritability and general nervous restlessness arising from prolonged exposure to sunlight or

* Paper read at a Meeting of the Northern and Midland Division held at Bracebridge Mental Hospital, Lincoln, April 26, 1928.

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ultra-violet rays is due to excess production of it in the skin with consequent toxic effects.

The presence of cholesterol in all cells of the body, and especially in the cells of the brain and nervous system, has for a number of years focused our attention on this substance. On the whole the results of these investigations have been unsatisfactory, but perhaps the most significant observations in this connection have been the finding of cholesterol or excess of cholesterol in the cerebro-spinal fluid in destructive brain affections. It may now, however, be questioned whether the cholesterol so found has any significance.

Rosenheim and Webster have shown that ordinary cholesterol as we know it is not a pure chemical substance, but is probably a mixture of substances of similar nature. They found that if after irradiation cholesterol was subjected to a separation process, a highly active fraction could be identified which would effectively prevent or cure rickets in rats, and that the cholesterol residue had no such effect. It is possible therefore that the previous work on cholesterol would have been more productive of results in relation to mental disorder had it been possible to take other, now known, similar chemicals into account. And although irradiated ergosterol cures rickets, the practical importance of vitamin D is by no means limited to the prevention and cure of rickets and the prevention of dental caries, but applies also to other ill-defined conditions causing greater or less ill-health and suffering. The undoubted effect of sunshine on general health, nervous stability and mental ease is too well known to be emphasized here.

It is, however, quite a different matter to pass from these benefits to the assertion of a definite relation between vitamin D sufficiency and mental disorder in its grosser and more serious forms. Such a strong assertion is not justified by the known facts. But it can nevertheless be demonstrated that vitamin D has a definite effect on certain blood reactions that occur in mental disorders, more especially in dementia præcox. Not only is this so, but the same effect is found when there is an apparent sufficiency for the normal body needs of vitamin D obtained from natural sources. These observations were made by testing the effect of certain substances on the hæmoclastic crisis which is found to occur in a proportion of cases of mental disorder.

The hæmoclastic crisis, first described by Widal as occurring in conditions of known hepatic disorder, has since been found to occur in other diseases of a very different clinical nature. Dr. Isabella Robertson's results, obtained at the Maudsley Hospital, showed that a hæmoclastic crisis occurred in 94% of dementia præcox, in

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85% melancholia, in 75% of chronic mania cases, and in over 60% of early psychotic and neurotic patients (*vide Journ. Ment. Sci.*). These results were later confirmed by me, working at the Rampton State Institution in conjunction with Dr. Lascelles, by tests carried out on 300 mental defectives, 200 of whom had shown mild or transient mental disorders (*vide Journ. Ment. Sci.*).

The value and reliability of this reaction has been questioned by many competent observers, but I think the balance of opinion is now strongly in favour of the real existence of these definite hæmic changes. In order to satisfy myself that a normal person does really give on every occasion a leucocytosis, over a period of fourteen months 360 separate tests were carried out on a control, each test being done on separate days, under similar conditions and exactly at the same hour.

One result was doubtful, and on 359 occasions a definite leucocytosis occurred (a negative reaction). These tests go far to prove that the blood reaction is reliable and subject to accurate laboratory observation. A case of dementia præcox that had previously given a hæmoclastic crisis was selected, and this subject and the control referred to above were kept under similar ward and fresh-air conditions for a period of eighteen months. All substances intended to influence the reactions were given fifteen hours before each daily test. A number of drugs and extracts are known to influence the hæmoclastic crisis, but the dosage and the period over which the effect could be maintained has not, so far as I know, been established. The subject for test, a case of dementia præcox, was found to give thirty-nine positive reactions in a series of forty-five daily tests. The six negative reactions (leucocytosis) were given on single days at more or less regular intervals.

Sodium nitrite given in 2-gr. doses daily produced a complete and permanent reversal of the crisis, but took several days to produce its effect.

Anabolin, an extract of liver, containing a depressor principle, produced in daily doses of three tablets a complete reversal to normal over a period of nearly four months. In one- and two-tablet doses the reversal was partial only, some reactions being positive and some negative. This liver extract is stated to contain no cholesterol or allied substances.

Cholesterol itself, given suspended in a small quantity of olive oil, produced an irregular reversal in doses of $\frac{1}{8}$ gr., but $\frac{1}{4}$ gr. given daily maintained a permanent reversal of the abnormal reaction. As it has been shown that cholesterol as hitherto known is mixed with very small portions of other cholesterol-like substances which when irradiated have the same effect as vitamin D, the

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further tests were conducted with irradiated ergosterol—the preparation being that known as radiostol.

Radiostol has a definite effect on the hæmoclastic crisis. One pellet containing 1 mgrm. ($\frac{1}{60}$ gr.) of radiostol produced a partial return to the normal reaction, the test results being positive and negative in about equal proportions. Two pellets given daily maintained a permanent reversal of the hæmoclastic crisis. If we accept the hæmoclastic crisis as being significant—the crisis occurs also in hepatic disorder and in certain chronic gastric conditions—it is reasonable to assume that the administration of a substance known to have a profound influence on body metabolism indicates that in dementia præcox and in some other mental disorders there is an actual body deficiency of vitamin D. As the vitamin D in similar doses had no apparent effect on the health of the control, it may be assumed that the deficiency was not due to a badly arranged diet or lack of exposure to such sunlight as may be available. The food intake being approximately equal in both subject and control, it is apparent that the vitamin D obtained from this source is in one case sufficient and in the other inadequate.

The effect of ultra-violet radiation of the skin on the hæmoclastic crisis was next investigated. The subject was exposed at a distance of 3 ft. to the rays from a mercury quartz lamp. On the first day the patient was given full body exposure, four minutes front and four minutes back, and on each subsequent day the period was increased by one minute to fifteen minutes back and fifteen minutes front. This period was then maintained. Owing to the risk and actual occurrence of burning, treatment was limited to four days weekly. The effect on the hæmoclastic crisis would appear to be equal to that produced by 1 mgrm. ($\frac{1}{60}$ gr.) of irradiated ergosterol given daily. From the results obtained I would judge that the amount of vitamin D formed in the body was fairly constant, and that the effect of increasing periods of exposure was offset by the protective action of increasing pigmentation of the skin. Only partial reversal of the hæmoclastic crisis occurred, so that in order to produce a complete reversal, at least 1 mgrm. of irradiated ergosterol had to be given daily to supplement the treatment by ultra-violet radiation. It is of course assumed that the amount of vitamin D obtained from food remains fairly constant, but a point of vital importance is that an excellent diet, plus sunlight in plenty, or ultra-violet rays, does not produce sufficient vitamin D to reverse the hæmoclastic crisis in this particular case of dementia præcox. These results may have no more significance than that, as in the case of certain other substances, an excess of vitamin D, while not necessary to the body economy, yet has a strong effect on certain

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blood reactions, but it is equally possible and much more likely that the vitamin D is of some as yet unknown value in cases of mental disorder.

Sodium nitrite, by its dilating action on the blood capillaries of the skin, produces an increase of the flow of blood through the capillaries serving the sebaceous glands, and it is suggested that its effect will be an increased activity of these organs with a consequent increase of vitamin production under the action of the proper stimulants.

The fact that the hæmoclastic crisis occurs also in hepatic disorder suggests that in this condition there is some loss on the part of the liver of its ability to store ergosterol, and owing to the occasional association between liver disorder and mental and nervous disease one is rather tempted to read these experiments as showing that many mental disorders have a cause or effect relation with the storage or catalytic action of the liver. As our knowledge of the mode of action of vitamin D, beyond its influence on calcium and phosphorus metabolism, increases, we may find some explanation of the phenomena here recorded. At the moment it can merely be said that irradiated ergosterol has an effect on a particular blood reaction in dementia præcox. So far as I am aware, no work has been done on the clinical effects in mental diseases of the known vitamins, but it would certainly be interesting to carry out a series of clinical observations on the effects of irradiated ergosterol on the course of early mental disorders, and it may be that vitamin D, in common with liver extract, has a corrective or antitoxic action in these and allied disorders.

Conclusions.

(1) Irradiated ergosterol causes a reversal of the abnormal blood reaction known as the hæmoclastic crisis in a case of dementia præcox, and the dose required to establish a permanent reversal is 2 mgrm. ($\frac{1}{35}$ gr.).

(2) There was no evidence in the control case of any deficiency of vitamin D obtained from the skin and from the food supplied.

(3) Ultra-violet radiation does not increase the production in the body of vitamin D sufficiently to produce a reversal of the reaction, and the quantity thus provided appeared to be roughly equivalent to 1 mgrm. of irradiated ergosterol.

(4) The vital significance of this vitamin to the body economy suggests the possibility of some relation between it and mental disorder, either directly or through some as yet unknown function of the liver.

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THE AIMS AND OBJECTS OF A MENTAL DEFICIENCY INSTITUTION.*

By F. Douglas Turner, M.B.,

Medical Superintendent, Royal Institution, Colchester.

The aims and objects of mental deficiency institutions in England have altered fundamentally more than once since they were first started. These alterations have, in many respects, been quite as substantial as the changes in outlook of the mental hospitals.

The first institution to be founded for defectives in England was the Royal Earlswood Institution, in 1846, and the institution of which I am Superintendent, the Royal Eastern Counties Institution, came next. Three others came shortly afterwards, and for many years this was all the provision that was made. All these five began as charitable institutions.

We still are charitable foundations to about the same extent as we always have been. For instance, my own institution still receives from £9,000 to £10,000 a year charitably, and supports about 200 patients elected by the subscribers.

In the early days we were under the Lunacy Acts, but in 1886 we came under the Idiots' Act—a special Act passed to take us out of the Lunacy Acts. The word "imbecile" for the first time then became a statutory term, to cover the high-grade cases now called "feeble-minded." It is interesting to note that we suggested the term "mentally defective" in the Bill, but Parliament was not ready for that term then, and it was replaced by the word "imbecile."

The Mental Deficiency Act of 1913 enabled Local Authorities to provide for defectives, and since that date, in addition to the charitable cases, we have taken by contract cases sent and paid for by Local Authorities. This Institution also takes defectives sent by Education Authorities under the Education Acts as a residential special school, and a few children under the Children's Act as an Industrial School. Five-sixths of our patients are now paid for in some way by local authorities under one or other of these three Acts of Parliament.

* A paper read at a meeting of the South-Eastern Division held at the Royal Eastern Counties Institution, Colchester, April 26, 1928.

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There have been three main phases in the aim of those looking after defectives. They have been perhaps best described by Davies in *The Social Control of the Feebleminded*, and they are almost contradictory, one to another.

First: For 30 years or more we thought, like all the other pioneers in this work, that we were going to cure them.

Second: This is generally called the alarmist stage. We got into a panic, thought the whole world would soon be defective, and that in order to prevent the rapid multiplication of defectives the only thing to do was to shut every one of them up in institutions, and keep them there for life.

Third: The present phase. This is one in which we are hoping to replace the stagnant pool of an institution in which the second phase landed us by a flowing lake with a good many of the patients admitted going out again.

As regards the first stage, the curative. When our institutions were founded we all started with the same idea that inspired Seguin, namely, that if only defectives were trained in the right way they could be made self-supporting, and go out into the world again. It is the fashion to think that we dealt only with idiots in those early days, but that was not so. We took high-grade cases then just as we do now. One of the early reports of the Royal Earlswood Institution says that four of the male patients had been taught to make panelled doors, and two of the female patients had been taken on the staff as housemaids.

After years of work, however, we realized that once a defective, always a defective, and that it was not possible to put into any one of our patients the intelligence that was not there at first—that, in fact, the only thing we could do was to make the best of the intelligence that already existed.

Then, from about the year 1900 onwards there came the second phase, the stage of panic. It was realized that cure was impossible, and something else must be done. Terrible family histories were published by the dozen, describing how so many defective women in one workhouse or another had had so many illegitimate children between them. It was assumed that these illegitimate children were all defective, and I am afraid it was assumed that these women were certifiably defective.

The United States were in a far worse state of panic than England. They sent us histories of the Kallikak family, the Jukes family and so on. We were, I am afraid, obsessed with these family histories, and we thought that unless the breeding of defectives was stopped somehow or other, the whole nation would quickly become defective. No one to-day would dare to quote the Kallikak family

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seriously. It would merely provoke a smile of good-humoured contempt.

But these histories did one excellent thing: they helped forward a splendid advance in the treatment of defectives, for the Mental Deficiency Act, 1913, was passed, and that puts on the Local Authorities the duty of providing the necessary institutions for the segregation and training of defectives.

That was in 1913, and then the war came and held up everything, and since then there has been a very definite reaction from the panic stage, and for several reasons.

Firstly, it began to be realized that the number of defectives in the population, if judged merely by intelligence tests, was enormous; that, as a fact, no country, however rich, not even America, could stand the financial strain of providing sufficient institutions to shut up all its defectives.

Secondly, it was realized that there had been, and still was, a good deal of ignorance about the causation of mental defect itself. It had been thought to be a disease entity, a Mendelian unitary character, and if that were so, it was reasonable to suppose that segregation would, in course of time, materially reduce the number of defectives.

But, after all, what do we mean by mental deficiency? It is merely a social convention. Can a person compete on equal terms with his normal fellows, or manage himself and his affairs with ordinary prudence? Intelligence proceeds on an inclined plane, without any steps or breaks in it, from those who have practically none, like the idiot, through the imbecile, the feebleminded, the dull and backward, the average up to the intellectual giants. Whether you call the bottom tenth of that inclined plane or the bottom twentieth or the bottom fiftieth mentally defective is merely social usage. Lest surprise be felt that I talk of as much as the bottom twentieth of a nation being called defective, let me remind you that when the United States came into the war the army was mentally tested before training began, and it was found that over 5% of the male population tested had a mental age as low as 9 years or under.

People we should call defective now were probably, a thousand years ago, considered to be highly useful members of society. Running round and hitting other people over the head with a battle-axe probably did not need much intelligence, and even nowadays a person considered defective in the more complex environment of a large city may get along quite well in the simpler life of a country village.

It was also realized that there were other causes of mental defect besides mere inheritance. How much of mental defect is due, not

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to heredity at all, but to secondary causes, like disease and poisoning of the germ-plasm before conception, and to disease and injury of the child before birth, at birth, or after birth?

The more I see of mental defect, the more convinced I am of the importance of those secondary causes.

A few years ago, 10 to 15% would have been thought an unduly high figure for the proportion of mental effect due to secondary causes, but a recent number of the American *Bulletin of Mental Hygiene* says that present American opinion believes that 50% of the cases of mental deficiency are due to secondary causes. Possibly America is now swinging too much in the opposite direction, but Larsen, Denmark, is now investigating a series of cases, and he has found that amongst his lower grade children as many as 70% show evidence of some kind of brain disease as distinct from heredity, and even amongst his higher-grade children he found that 21% were due to secondary causes. We have recently tested the blood reaction of one hundred cases under 16, and we found that 25% gave a positive Wassermann reaction. This surely points in the same direction—the great importance of looking for secondary causes of mental deficiency.

Some years ago I personally investigated 318 of the cases of this Institution in reference to their family history, and in only 15 cases—that is, just under 5%—was a parent or grandparent certifiably feebleminded. That means that no amount of segregation or sterilization in previous generations would have stopped more than 5% of these 318 cases.

Personally, I think that the mistake in the past has been in relying far too much on Poor-Law figures. Naturally these give a higher incidence of defect in the parents, because the defective parent drifts to the Poor Law when he cannot support his children, and you do not get a fair sample of the population.

But even if 50% of mental defect is due to heredity, it is, so far as we know at present, a defect which, in the majority of cases, is passed on by carriers, and not by direct inheritance from parents who could themselves, by any present standard, be certified, or segregated, or sterilized. The truth of the matter is, we know very little about the inheritance of mental defect.

Then thirdly, in our problem we have realized that we have to face another factor besides intelligence, and one that matters quite as much as intelligence, and that is character, conduct, stability—that, in fact, there are good defectives and bad defectives, and the good defectives outnumber the bad by many thousands. They are getting their living in humble positions, mostly doing the dirty work, the menial jobs of the world; after all someone has to do it,

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and most of us would not care to do it. You cannot shut these defectives up, and you cannot sterilize them; as the Mental Deficiency Act is drafted, they are not "subject to be dealt with" under that Act. And as a side point it was realized that defectives do not breed to anything like the extent that had been supposed. Fernald and Bernstein have both proved that amongst the mental defectives going out from their institutions who have married, or had illegitimate children, the number of children is surprisingly low.

The cumulative effect of all these points has been to again alter the outlook and the character of the mental deficiency institutions. The tendency of the alarmist stage was to force the institution to become an almost stagnant pool, with everybody satisfied to do the best they could for those defectives lucky enough to get inside its doors, satisfied that permanent care was the greatest blessing that could be given to these lucky ones, and almost entirely oblivious of the dangers, the difficulties and the sufferings of the much greater number of defectives who could not get inside because there was not room.

The only change that could or did take place in the placid calm of this very stagnant water, the ordinary mental deficiency institution, was the occasional ripple caused by a death, or less often by the discharge of one of the patients, or the rather bigger ripple made by some small building extension. These were the only possibilities of making room for any other patient, however urgent. But now we have come to believe that it is no good keeping all the jam for just a few so that their bread may be completely covered. The jam must be spread over just as many slices as it can be made to cover, even if it is a bit thin in places. No patient must be considered a permanent resident, no case should be detained if there is any reasonable chance of its making good in a simpler environment. And if we are not quite sure whether the defective will make good or not, we ought to take the risk.

To put it shortly, this means that the institution should be a flowing lake, always taking in, always sending out, but sending out only—and this is a most important point—to other smaller lakes, each of which shall be fed from it.

To you who are nearly all, I suppose, medical officers of mental hospitals, that probably seems nothing much to make a song about. The sending out of patients able to look after themselves is just what you are always aiming at, but to those of us who have been accustomed to the stagnant water, it is more or less of a revolution.

I believe that all defectives in the area served by a mental deficiency institution who need more than supervision ought to come first into the one big central institution for that area, where

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they can be studied, tested, trained, stabilized and sorted out. That is the inflowing stream.

It is the greatest mistake to send cases from their own homes direct to the guardianship of foster parents, who probably know as little as the parents did, how to manage them, though owing to the great shortage of beds it is at present often the only thing that can be done.

Many of the inflowing stream will always remain in the institution—for instance, the low-grade custodial cases, the wet and dirty cases, the epileptics, the troublesome fighting cases, the high-grade unstable ones, the men guilty of sexual crimes before admission. But there should be, and there will be, a good many who, after testing and training and stabilizing, can be sorted out and put into the outward stream. For the higher grades this testing will include being allowed out in the town with two other patients, and without staff. Three together are safer than two. Two hang together and do not split on one another, whereas with three, one generally tells if anything is going wrong.

This outward stream should carry some to the hostel branches of the institution, firstly, to be tested in day service from the hostel.

In America a good many defectives live in hostels, and go out to factory work in the town. We have tried this, but it does not work very well, partly because of the unemployment in England, and the difficulty of getting regular work. Some institutions, however, successfully send some male patients out daily to work on neighbouring farms. After a period of successful day service from the hostel branch the patient is next tried at "living-in" service. In my opinion this "living in" service should be conveniently near to the hostel, so that the patient can come back to it during her time off. The chief thing a defective girl going out to service seems to feel is the deadly monotony of the ordinary small house after the constant change of life in a big institution. If the situation is near the hostel the girl can come back to the hostel for her time off, for gossip, for her Guide work and for her holidays, and the Matron supervises her money affairs, her clothes and her going out. Eventually, after years, there may come final discharge.

The outward stream should also carry some, perhaps not many, back to their own homes on licence, to work outside their homes, to work inside their homes, to be cared for at home. I say perhaps not many, because if the home has, in the first instance, failed in care or produced instability or unmanageability, the home will probably produce a return of these symptoms after a short time, in spite of the institution training.

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The outward stream should carry quite a number of patients to foster-parents on licence, to work outside their new home, to work in their new home, or to be cared for in their new home.

The best type of case for foster-parents is the medium grade, well-behaved, stolid defective, who is content to sit about and do little—the imbecile. Foster-parents as a rule will not bother with low-grade wet and dirty cases, and the high-grade defectives will not be bothered with foster-parents looking after them. They feel the deadly monotony of an ordinary village home after the change, the gossip, the something always going on, that makes the life of the modern institution, and the foster-parents cannot control them.

The outward stream will lastly carry some patients to a simpler type of institution on licence. By a simpler type of institution is meant the special wards of a good workhouse, or one of the existing small homes. These also would be quiet, well-behaved, generally older defectives, mostly of a medium grade of mentality.

The essence of the scheme, however, and a necessity for its smooth working, is that all defectives who have once been admitted to the institution, whether later, at the hostel, in living-in service, with foster-parents, or in the simpler type of institution, must remain on the books and be on licence from the central parent institution. This ensures absolute and immediate fluidity of movement in all directions inwards as well as outwards, between the centre and between all other methods of treatment.

It should be just as easy to move inwards again to the central institution or to move from one to the other of any of these methods of treatment as outwards from it. This can only be secured by everyone sent out from the central institution continuing on licence, and fortunately there seems to be nothing in the Mental Deficiency Act to prevent licence for any length of time. Many of our patients have been on licence for years—one continuously since the year 1919. They are all of course under supervision, and are seen from time to time wherever they may be, but they all remain on the books of the central institution.

It is most important when you are dealing with defectives to keep them on a "bit of string"; it is the thing that ensures good behaviour more than anything else. Some 25% of the cases on licence have to come back every year for one reason or another. This does not include those coming back for holidays or for small illnesses, or because they are out of a job, but for bad behaviour, or because the foster-parents cannot manage them, or because the foster-parents are unsuitable, or there may be changes of circumstances.

The great advantage of licensing these patients who go out is,

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that you can shift anyone anywhere at a minute's notice at the least hint of any danger or trouble. It is this power of instant removal that is the great safeguard. We have had several cases where if we had had to wait for a magistrate's order before taking action there would have been disaster.

The whole point about this new view of the proper function of the modern mental deficiency institution is one big central institution taking all grades and all ages to which all defectives needing more than supervision come. Connected with this central institution are, of course, all the ordinary things, upper and lower grade schools, training shops for all kinds of trades, and so on, but also connected with it are hostel branches for service outside, farm colonies, one or more simpler types of institution, and many foster-parents.

I have spent so much time on what I believe to be the great change that is taking place in our outlook that there is not room to say much about our other and older aim, the making the best educationally of the material we get.

We are under the Board of Education as a special school for defectives, and under the Home Office as an industrial school, as well as under the Board of Control, but we do not worry in the least under which Act of Parliament a case comes to us. The patient goes in the right class according to mental capacity, and nothing else is counted. It is vital to have enough separate classes to allow of grading and classification. We have over the whole institution some twenty-two classes. More than half the school teaching is manual work, but at the age of 16, and often before that age, they go to the manual training shops. We have one great advantage, and that is, that at whatever age our patients come to us they come with the idea of being trained and of working. We aim at making everything we use, all our boots, our clothing and uniform, all our furniture; in addition, we have selling shops for brushes, baskets and mats. We do not yet weave all our own materials, though we do a good deal.

The high-grade patients are the skilled workmen of the colony, the medium-grade are the labourers, and the low-grade the drones, but they have to be pretty low grade before it is not possible to find some job for them.

One of the great advantages of an all-grade institution where the high-grades do the work for the low-grades is that you reduce enormously your average weekly cost as compared with an institution taking only low-grades, where all the work has to be done by a paid staff.

We have, of course, a farm, gardens, and orchards, a seaside home,

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which is a great boon for the many patients you dare not allow home for holidays—and two branches run as hostels.

In my opinion the more you have in the way of Guides, Scouts, school plays and such-like, the better for the institution and its patients. Our Annual Report generally contains photographs of different scenes out of the school plays that take place each year. The dressing-up and the acting in public are excellent training for all types of defectives. This Christmas our girls' school, for instance, gave five public performances of their play, and took about £130. This money, after paying expenses, provides the funds for the Guide summer camp.

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ON THE METHODS IN VOGUE AT THE BOSTON PSYCHOPATHIC HOSPITAL.*

By Ian Skottowe, M.B., Ch.B., D.P.M.,

Henderson Research Scholar in Mental Diseases; Senior Assistant Medical Officer, Cardiff City Mental Hospital; Formerly Assistant Medical Officer at the Glasgow Royal Mental Hospital; sometime Assistant Medical Officer at the Boston Psychopathic Hospital.

The scope of this contribution is to give an account of the administrative and clinical methods at the Boston Psychopathic Hospital, to give a picture of the clinical material, and to discuss the advantages and disadvantages of the system.

Historical Note.

The Hospital was opened in 1912 under the administrative care of the State of Massachusetts. It was designed essentially to deal with acute, recent and recoverable types of mental illness. The scheme was actually started in 1900 by Vernon Briggs and others. It received the support in this country of Maudsley and Macpherson. There were many difficulties in the way, and much inter-departmental strife occurred before the Hospital finally came into being. A full account of these difficulties and the various legal and semi-political arrangements which had to be made have been published by Vernon Briggs (1).

Sources of Material and Modes of Admission.

The Hospital draws its cases from private practitioners, general hospitals, various charitable institutions, courts of law, schools and the police.

The mode of admission is usually one of the following:

(1) The patient may come in voluntarily on signing the necessary paper.

(2) The patient may be brought to Hospital on the strength of a "10-day care paper."

This is a paper which authorizes the Hospital authorities to hold the patient for ten days. Such a paper may be signed, not only

* A paper read at a meeting of the Scottish Division at the Stirling District Mental Hospital, Larbert, June, 1927.

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by a physician, but also by a policeman, a member of the Board of Health, or an agent of the Institutions' Registrations Department. It does not even require the signature of a relative.

For example, a person who is behaving curiously in public may be picked up by a police officer and brought direct to the Hospital, the officer signing the paper at the Hospital; the Girls' Parole Department (a State-controlled welfare scheme which takes charge of girls who present such anomalies of behaviour as sex delinquencies, thieving, running away from home, temper tantrums) frequently refer their charges to the Boston Psychopathic Hospital for a period of ten days to have them investigated from the psychiatric standpoint and to have the psychiatrist's advice as to the future management of the case; or, again, the law courts may refer the accused to Hospital; a family confronted with a problem of behaviour in one of its members and being unwilling to send the subject straight to a State hospital, may send him to the Boston Psychopathic Hospital without feeling the common misgivings about a "lunatic asylum." After due investigation, advice as to the disposal of the case is given to the relatives.

Admission Rates, Accommodation and Disposal of Patients.

The Hospital deals annually with about 4,000 patients, of whom one-half are out-patients. From this simple statement the necessity for the existence of such a hospital is clearly apparent. It accommodates only about 100–110 patients, equally divided between males and females. With such limited accommodation it follows that the residence of each patient must, on an average, be short. Actually the vast majority of patients stay in hospital only ten days; that period is usually sufficient for an adequate diagnostic investigation to be made and advice to be given accordingly. At the end of that period one of several things may happen to the patient:

(1) The patient may continue in residence. This happens in (*a*) cases of special interest on which research is to be done; (*b*) cases in which the diagnosis is not clear, and which require further investigation; (*c*) cases which are likely to recover at an early date; (*d*) early cases of general paralysis which are suitable for malarial treatment; (*e*) cases whose physical condition is such that it would be unwise to move them.

This continuation in residence may be done on one of several bases: (*a*) The patient may sign a voluntary paper which becomes effective on the expiration of the "10-day care paper"; (*b*) the "committing physicians" (two outside practitioners who visit the Hospital twice weekly to examine patients who have been deemed "committable" by the clinical staff) may sign a "35-day care paper." This is done chiefly in cases of group (*b*) above; (*c*) the "committing physicians" may sign an ordinary commitment paper (corresponding to our ordinary certificate) for the patient to be detained at the Boston Psychopathic Hospital.

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(2) The patient may leave Hospital at the end of ten days and may be referred to the Courts or to some welfare organization; to the Out-Patient Department for follow-up work; to the Social Service, or the patient may simply be committed to a State hospital. The latter course is the one taken in all chronic cases which are unlikely to yield fruitful results in investigation or therapy.

It will be clear, then, that the Hospital is a centre for cases in which there is a question of mental illness, with the privilege of keeping for itself cases of special interest. Ordinary committable cases are not supposed to come to the Psychopathic Hospital; they should go straight to the State hospitals. It is essentially designed to deal with those "in-between" cases that are not clearly psychotic, but which present such anomalies of behaviour as to render psychiatric examination advisable. In actual practice, however, it is extremely difficult to maintain this ideal.

Financial Arrangements.

The cost to the State of each patient per week is $42.00. If the relatives of the patient can pay this, well and good; if not, they pay weekly as much as they can, or they may pay nothing at all.

General Structure.

The Hospital itself is a small T-shaped building standing in two acres of ground, and in its general lay-out conforms closely to our own general hospitals. There are five wards in use, namely, an acute ward and a convalescent ward on each side (male and female), and a special ward of eight beds set aside for the malarial treatment of general paralysis. , The wards themselves are subdivided into small dormitories with day-rooms, and in each acute ward there are about eight single rooms. There is also in each acute ward a place called the "tub-room," where there are facilities for six continuous baths going on simultaneously under the supervision of one nurse or attendant. In addition, each ward has an "examining room," very completely equipped, where mental and physical examinations may be made privately.

General Disposition and Duties of Staff.

For purposes of concise description it is desirable to regard the staff as consisting of two great divisions, namely, the Executive Staff and its subservient departments, and the Clinical Staff and its subservient departments.

1. *The Executive Staff.*—This is under the control of the Chief

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Executive Officer (corresponding to the superintendent). His duties are similar to those of a general hospital superintendent—that is, the general supervision of all administrative and legal matters. He has two assistants who take alternate 24-hour duty. They are the members of the staff who admit all patients, see that the papers are in order, make financial arrangements and, apart from taking history, do all the interviewing of relatives—for example, in regard to the progress and disposition of the cases. Although they make formal rounds of the wards, they play no part in the mental examination of patients. On them rests the final decision in all legal matters such as commitment, discharge, transfer, permission for lumbar puncture, whether or not the patient shall have his eye-glasses, etc. They are kept in touch with the progress of the patients by the daily ward reports, and they receive recommendations of the Clinical Staff at short meetings held thrice weekly.

The subsidiary departments of the Executive Staff, such as the Dietician's Department, the Treasurer's Department, the Housekeeper's Department, etc., are not in any way peculiar to the Hospital and do not merit special description.

2. *The Clinical Staff.*—This is under the control of the Director. Immediately subordinate to him is the Chief Medical Officer. The duties of each of these include both male and female services and the general management of clinical work. Then on each service (*i.e.*, male and female) there is an Assistant Medical Officer or "Chief of Service," and under him several internes (four or more), students and voluntary workers.

Acting on an independent but co-operative basis is the Chief of the Out-patient Department, who is assisted in turn by the junior members of the indoor staff.

The subsidiary departments of the Clinical Staff are:

(*a*) The Psychological Laboratory with its chief and three or four psychologists.
(*b*) The Social Service Department with its chief, four social workers and a number of students.
(*c*) The Biochemical Laboratory; (*d*) the Neuropathological Laboratory.
(*e*) The Department of Therapeutic Research; (*f*) the Radiologist.
(*g*) The Dentist; (*h*) the Occupational Therapy Department.
(*i*) The Superintendent of Nurses and her department.
(*j*) The Hydrotherapy Department; (*k*) the Record Room and stenographers.

To illustrate the uses of these departments, let us follow the course of a patient through the Hospital:

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The case is taken by an interne in rotation as it comes in, and he is at once informed of its admission when the necessary formalities have been gone through by the executive officer on duty. The interne then interviews the relatives for the purpose of taking the history and after that he does not see them again. Within three hours of admission a preliminary physical examination must be made and recorded on the patient's chart. This is done merely to prevent any gross injury or physical illness from being overlooked. The interne then has three days in which to make a complete mental and physical examination, calling in the advice of such subsidiary departments as are indicated. For example, the Social Service if he thinks the history is not reliable; the Psychological Laboratory in all minors, police and court cases, as well as those in which there is a question of intellectual deterioration. After writing up this preliminary survey of the case, he then hands his notes into the record room and a typed copy of the case record is duly presented to him for correction. After that the case is presented at ward rounds, which are made on each service on alternate days by the chief medical officer. At these ward rounds the case is presented on a purely descriptive level for the purpose of allowing the chief medical officer to make a formal diagnosis and recommendation. The interne makes notes of the chief medical officer's remarks and then hands them into the record office. By this time the patient has been in hospital four days, and a preliminary survey of the case has been made, together with the formal diagnosis. On the days when the Chief Medical Officer does not make rounds the Director does so, and our case, which was presented the previous day to the Chief Medical Officer, is now presented to the Director, but in a very different way. It is not taken up in a formal descriptive way, but essentially from the dynamic interpretative point of view. The case is discussed at length, and an attempt is made to reconstruct the total situation from the data obtained so that the Director can sketch out the lines along which further study should be made. For example, the Biochemical Laboratory may conduct extensive investigations into the state of the patient's metabolism; the radiologist may investigate the condition of the gastro-intestinal tract; the bacteriologist may take up the question of infection. In the meantime the patient may be undergoing hydrotherapy or he may attend the Occupational Department, and at the same time further conversations with him are carried out so that more insight into his mental state may be obtained. Cases of special interest are presented at meetings of the whole staff which are held on five days of the week, so that they may be fully discussed from all points of view. It is apparent then, that the Hospital is so managed

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as to provide the fullest possible investigations of the case in the least possible time.

There now falls to be considered the work of the individual departments.

The Psychological Laboratory and the Social Service will be dealt with particularly, as they have shown themselves to be of very great value in the practical handling of the cases. The biochemical and other laboratory work need not be considered in technical detail, because it is by no means a feature peculiar to a psychopathic hospital.

The Psychological Department.

From the point of view of clinical psychiatry the principal function of this Department is to do intelligence testing. Let it be said at once that this does not consist merely of going through the Binet-Simon scale, or one of its modifications, and then labelling the patient with a number to designate his intelligence. Except in cases of uncomplicated mental deficiency, comparatively little can be learnt from such a number, and a very great deal can be learnt from the way in which the patient does the tests; which particular ones he fails in; what his behaviour is during the examination, and so on. Intelligence testing is not a formal ritual which can be conducted by any layman who happens to have a copy of the Binet-Simon tests; it is an art calling for experience of clinical psychiatry and a thorough knowledge of psychology.

The method used at the Boston Psychopathic Hospital is the Stanford Revision of the Binet-Simon Scale (2), which, although it does not take linguistic difficulties into account and is considerably influenced by scholastic attainment as opposed to native intelligence, is found to be the most useful and rapid method of dealing with a large number of routine cases. It is possible to state from a study of these tests—(1) whether deterioration has occurred; (2) whether the patient was originally defective; (3) whether a low intelligence quotient is due to psychotic disturbance of thinking or to poor endowment (3).

The importance of these points is great. Only too often do we say of a schizophrenic patient that he is demented, and we give our prognosis accordingly, while tending to adopt an inactive and fatalistic attitude which does not result in any practical effort being made in the way of therapy. This subject has already been taken up in patients who have been for many years in a mental hospital (4), but so far no extensive work has been published on early schizophrenic cases. These old cases do show deterioration, but it is evident from the findings at the Boston Psychopathic Hospital that many early cases do not show any such change.

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Intelligence testing provides a means of differentiating between simple dementia and high-grade mental deficiency, or between mental deficiency and some other deteriorating psychosis, such as alcoholic states or general paralysis (5). In general paralysis itself it is a valuable index as to how far the patient has deteriorated, and may be used as a guide and check for malarial treatment. In certain behaviour problems where the patient makes a pretty good superficial showing the psychologist may lay bare a mental defect of fairly pronounced degree.

In addition to intelligence testing, the Psychological Laboratory conducts memory tests (6) on a more elaborate scale than that usually employed in routine mental examination. The Department also undertakes word-association tests as part of a psychological analysis.

It deals in all with 1,500 cases per year, and from this figure its uses must be apparent.

The Social Service.

When a case is referred by the clinician to the Social Service, it is assigned to one particular worker, who then interviews the patient and the interne concerned, and obtains from them and from the ordinary medical case-record such social information as she can. This includes place of employment, school history, names and addresses of interested parties and the patient's statement of home conditions. She then registers the case at the Confidential Exchange of Information, and finds from the Exchange whether the case is known to any other social agencies, welfare schemes or charitable organizations. In addition to the information obtained from these sources, the worker visits the patient's home, interviews his employers, looks up his school record, interviews his doctor or clergyman, and takes up any other line of investigation which may be indicated, such as looking up the records of other hospitals, police records, etc. It is amazing how often this Social Service ferrets out important information which is blankly denied or omitted by the relatives when they first give the history to the interne. Moreover, it does obtain first-hand information regarding the correctness or otherwise of statements made by the patient. The Service is called in as a routine in all court cases and in all minors. It is of very great value in the "behaviour problem" type of case, as it is necessary to have the fullest possible information before any attempt to understand these cases can be made. Apart from the mere gathering of facts, the Social Service deals actively along social lines with those cases which are not already within the scope of some other agency.

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This side of the work consists of (1) arranging with employers to let the patient have time off to attend the out-patient clinic; keeping in touch with the patient and persuading him to attend the Hospital regularly; (2) general supervision of the patient at home to see that he carries out the physician's orders; (3) arrangement for holidays for the patient through various charitable institutions; (4) arranging employment for the patient along the lines suggested by the clinician, and enlisting the aid and co-operation of employers; (5) arranging for financial assistance with one of the many charitable institutions; (6) general supervision of home conditions, and securing of a visiting housekeeper; (7) personal supervision.

This is of particular importance in behaviour problems such as sex delinquencies. It is a question of tiding the patient over a difficult emotional period and guiding her into suitable modes of reaction. This implies a sympathy and understanding for the patient which cannot be achieved so long as there is any officialdom in the atmosphere, which results in the patient adopting the attitude of a naughty child towards a school-mistress. Too often is this the case with some of the so-called Welfare Associations, but it may be unhesitatingly averred that the social workers of the Boston Psychopathic Hospital get an amazingly good contact with their charges with a more gratifying prophylactic result. This type of case is one which is particularly liable to degenerate into prostitution. The social worker with her tact, her unofficial and friendly mode of approach can do a great deal for these patients and for the community at large. It is essentially a question of proper and wholesome outlet for the patient's emotional life, and this is taken up by the social worker along lines of arranging for money for clothes, cultivating an interest in social clubs, wholesome moving pictures and other recreations. The social worker is a girl, more or less of the patient's own age, whom the patient can approach frankly and without fear of being regarded as a criminal. Once this attitude is established, healthy reactions on the part of the patient are soon acquired.

This personal supervision is also of importance in those psychotic cases which are suitable for home care. Here the social worker's problem is largely one of making certain that the patient's illness does not get him into social difficulties, whilst she also sees that he reports regularly at the Out-Patient Department, and she keeps the Hospital in touch with any changes in the patient's condition that are observed at home.

In addition to the regular Social Service there are two special workers, who, whilst carrying out their duties along essentially the

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same lines as the Service in general, work with special groups of cases. These are: (1) The syphilis follow-up worker, whose duties aim at preventing a spread of infection, in addition to personal care; (2) the "Red Cross" worker, who confines her duties to the ex-Service patients.

Work of the Other Departments.

There is little that is novel in the other departments of themselves, but the manner in which they illustrate the application of the principles of general medicine to psychiatry is very striking. For example, the X-Ray Department is freely utilized for obtaining data as to the size of the pituitary gland, the question of a persistent thymus, the movements and positions of the viscera and their relationship to, say, the affective states.

The Biochemical Laboratory is extensively used to obtain data relating to metabolism and the endocrine system in relation to mental illness.

A vast amount of work along these lines is done, and because of the large quantity of cases which passes through the hospital, it takes a comparatively short time to collect observations on a large series of cases.

An outstanding feature of the Hospital is its Library, which is under the care of a trained librarian, and is completely equipped with works of reference and regular periodicals. A system of indexing enables former publications to be looked up with ease, thus making the Library a valuable aid, and a stronghold of all psychiatric literature.

A Picture of the Clinical Material.

The cases, as seen clinically, fall under three heads: (1) Ordinary chronic forms of mental illness; (2) ordinary forms of mental illness in an early or mild stage; (3) a group of special cases—types of illness which one does not see outside a psychopathic clinic.

Cases of the first group do not call for description in this contribution, but some examples of the other two groups may be given.

Early and Mild Stages of Ordinary Forms. (Group 2.)

Case 1.—An Irish-American, æt. 39, came to Hospital voluntarily, ten weeks after the birth of her child, because she felt unusually elated and could not settle to anything. She was restless, over-talkative, cracked jokes with the physicians and showed considerable flight and distractability. The intellectual functions were unimpaired; she realized that she was mentally ill. She had a well compensated mitral lesion; gynæcologically nothing was found. After three weeks in

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Hospital, during which she had many conversations with the physicians, she was able to go home, and she had at least sufficient insight into her conduct and general strivings to enable her to appreciate her own difficulties and guard against them.

Case 52.—An Irishman, æt. 36, was brought to Hospital by his wife. He was in an anxiety state. He had been in a general hospital following an injury to his foot, and the Wassermann reaction, which was done as a routine at that hospital, was positive. He became so disturbed about this that his wife brought him to the Psychopathic. Clinically, he was in an anxiety state with hypochondriacal trends. He wondered if a pimple on his face meant syphilis; he was continually asking to have his genital organs examined. A careful examination of his intellectual functions showed no deterioration whatever. Physically the pupils were fixed; blood and cerebro-spinal fluid—Wassermann reactions, were positive and the other cerebro-spinal fluid findings were characteristic of general paralysis. He remained voluntarily for malarial treatment.

Case 32.—An Irishwoman, æt. 25, was brought to Hospital because she had gone into an hotel, got outside on the window-ledge and had then gone up on the roof and had sat on the edge of a chimney. Clinically, she was tearful and at times agitated; in conversation she was quite clear, but definitely retarded; there were no delusions or hallucinations. Her mental trend centred around the fact that she had entered the U.S.A. illicitly and was afraid she would be deported and sent from her $20 a week situation in the States to the poverty of her Irish home.

Case 29.—A Nova Scotian, æt. 63, was sent in from a general hospital because she had threatened to jump out of the window and was "seeing animals." She presented the picture of a delirium; she wandered about in a purposeless way. During the night she was constantly out of bed watching the "kittens running up the ventilator." It was almost impossible to get her attention as she kept calling out to her son, whom she believed to be in the corridor. She confabulated, saying that she had seen the physician at a general hospital, describing how he had been called in in consultation and what he had said and done, etc. She was grossly disoriented and was unable to retain names from one minute to another. Physically she was very weak, sallow, emaciated and very constipated. There was visible peristalsis in the left umbilical region; the liver was felt 1½ in. below the costal margin and was tender, but smooth and regular. Neurologically there was nothing but a coarse tremor of the tongue and a fine tremor of the fingers. The history showed that for many years she had been constipated and for the past four months had complained of indigestion. For several years she had suffered from headache and sleeplessness, and had taken veronal in 10-gr. doses regularly over that period. The delirium had come quite "out of the blue" two days prior to admission. Malignant disease of the colon was suspected, but repeated X-ray examination failed to detect it. After repeated enemata the condition cleared up, and when the enemata were discontinued she again became sleepless, irritable and mildly excited. Further eliminative measures cleared up the symptoms again.

Special Forms. (*Group* 3.)

Case 27.—An English girl, æt. 17, was under treatment for myxœdema at a general hospital in February, 1926. She was discharged in March and was getting on well on thyroid. In April a man took her for a motor run; he parked the car in a side street and offered her a drink; she refused. The man then had some drink himself and attempted to rape the girl. She was terrified and fought her way out of the car. She ran some distance and managed to get a taxi, which took her home. For about a week after this she felt all right, and then one day at her work she had a fainting "turn," and woke up a few hours later to find herself back in the general hospital where she had been before. These fainting spells continued daily for about a week. She herself had no recollection of them, but those who saw her stated that she re-enacted the whole of the unpleasant experience which she had gone through in the car and went through all the fighting and struggling in a most vivid way. She was referred to the Psychopathic Hospital from the general hospital. Clinically no psychotic features were present. The intelligence quotient was 104; there were no signs of myxœdema. She discussed her case frankly and intelligently; she recalled the original incident vividly, and said,

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"I hate to think about it so much that I go off in a subconscious state." No deep analysis was made in this case. The girl after discussing the incident seemed to have sufficient insight to readjust herself with a little help and she made a good recovery.

CASE 2.—A clerkess, æt. 25, was referred to Hospital by the courts, where she was being tried on a charge of forgery. Clinically there were no psychotic symptoms. She was rather casual about the whole situation. Her intelligence quotient was 102. Her story was that she was infatuated with a certain man who was very hard up; he had induced her to forge a small cheque and had then threatened to expose her if she did not continue forging larger cheques. She said this was her first misdemeanour. The patient's sister, when interviewed, confirmed this statement. On the face of it, then, there was no evidence of any mental illness; no terms in which the patient's conduct could be explained. It is in this type of case that Social Service proves itself of such great value. They took up the case and found that the patient had been expelled from school for stealing money from other pupils. She used to indulge in very strange forms of behaviour. For example, she would go into a shop and order a pair of shoes, and when the bill came in she would refer her creditors to her twin sister, who did not exist. A whole string of delinquencies came to light, and furthermore, the patient was well off and there was no necessity for her to do these things. As a result of the Social Service investigations it became quite clear that the girl's behaviour was explicable only in terms of mental illness, and the courts were accordingly informed.

CASE 30.—A girl, æt. 19, of Franco-Irish extraction, was sent to Hospital by a charitable institution because she had run away from the house where she was a domestic servant and had threatened to commit suicide. She had first come under the care of the Charitable Institution at the age of 13 at the instance of her mother, because she had been having sexual relations with a boy at that time. Since then she had not lived at home. Clinically she was of the bright, vivacious, rather attractive type that one associates with the cycloid make-up. She suffered occasionally from mild depressions of a few days' duration. She was very impressionable and easily swayed emotionally. Her intelligence quotient was 96. She showed no psychotic symptoms whatever. She discussed things openly and frankly. She said that since the age of 13 she had experienced at irregular intervals great sex longings and had yielded to them. Over a period of six years she had had affairs with four different men and appeared in each case to be genuinely fond of them; there was no question of monetary gain. She appreciated the fact that her conduct was opposed to accepted standards, and one felt that she was not wilfully promiscuous, but rather was unable to make an adequate compromise between the demands of her instincts and the demands of society. The Social Service investigated this case and found that her environment was just about as unsuitable as could be. Her father was alcoholic, her mother was a weak-undisciplined cripple. The family was supported by an 18-year-old brother. The patient had picked up her sex instruction casually and associated with rather a low crowd. She worked from 7 a.m. to 9 p.m., had no regular evenings off and was taken out once a month by a visitor, whom she cordially detested. Personal contact with the Hospital Social Service and the feeling that she could always come to the Hospital and talk over her difficulties with a psychiatrist made all the difference in the world to this girl's happiness and efficiency.

CASE 34.—A woman, æt. 37, of English extraction, was referred to Hospital by the Social Service of one of the general hospitals, where she had been operated on for salpingitis. Their reason for doing this was because she was separated from her husband and had had an illegitimate child by another man within the previous two years. Mental examination failed to reveal any evidence of psychosis, but her grasp of general information was poor. She lacked the proper appreciation of her position and behaviour. The aid of the Psychological Laboratory was called in and they found that the intelligence quotient was only 60. She reasoned very poorly. There was no scattering of performance, which was uniformly low and consistent with mental deficiency. This woman had been able to earn her living as a cook prior to her marriage. The family history was quite negative, and the patient's own children, of whom there were three, were all efficient. She herself had little or no schooling, being kept at home on a variety of excuses. It is noteworthy that a mental defective should have managed to carry on as well as this woman did before finally coming under proper supervision and care.

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Discussion of Advantages and Disadvantages.

Advantages to the community.—The most striking advantage of the Psychopathic Hospital system is the fact that a patient, even although he is unwilling to come to hospital, does not need to be grossly ill mentally before he is brought under the care of the psychiatrists.

The early examination and treatment of cases tends to keep down the admission-rate to custodial asylums, and so tends to preserve the economic status of the individual and prevents him from becoming a burden to the State.

The executive officers and Social Service interview, in the course of a year, many thousands of relatives, and to them they impart the modern attitude to mental illness, and condemn the fatalistic and traditional attitude of the past.

The service given to courts, police, welfare schemes and schools goes far to prevent many anti-social and criminal acts from occurring.

Advantages to the individual.—The fact that the Hospital provides for the management of early cases renders its advantages at once apparent.

The great thing is that the policy of the hospital is not to condemn apparently deteriorated cases as hopeless. Psychologists have shown that many so-called states of dementia are really psychotic disturbances of thinking and that the intellect is well preserved; even the general paralytics are given every chance of improvement.

The Hospital does not lose sight of its patients when they are discharged; the Social Service follows them up, and they know that they can come back to the Out-patient Department at any time when they are in difficulties—a singular contrast to the ordinary mental hospital, where the unfortunate relatives have to wait until the patient is certifiable before they can bring him back.

Advantages to the profession.—The general practitioner can send difficult cases to the Psychopathic without the need for certification. He may be in doubt as to whether certification is the proper course; the relatives may be unwilling to accept his view that it is the proper course. In such cases the opinion of the physicians at the Hospital is generally accepted, and tides over a difficult situation.

The value of the Hospital as a teaching centre for students and post-graduates is enormous.

Criticism.—No criticism is offered of the theoretical system of the Boston Psychopathic Hospital, but in practice certain difficulties arise which are briefly indicated below:

(1) Far too much of the wrong kind of material finds its way into the Hospital; 60% of all admissions go on from the Psychopathic

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to State hospitals (7). The fault lies with the general practitioners and with patients' relatives, principally the latter. The executive officers could simply refuse to admit unsuitable cases, but they must stand by the general practitioners in emergency.

(2) Ten days is rather too short a time in which to make a complete investigation of a case, consequently some of the diagnoses which are made would perhaps be altered were the patient in hospital a little longer. This point has been investigated, and it has been found that, of those cases which go to State hospitals, the diagnosis has to be altered in one case out of four, most of the errors being in the manic-depressive and schizophrenic groups, particularly in states of excitement (8).

(3) The staff is too rigidly subdivided; thus the relatives only get, so to speak, second-hand information about the patients, as they do not come in direct contact with the clinical staff. Sometimes executive and legal matters make it necessary for a patient to leave hospital whilst his case is perhaps the subject of an elaborate biochemical investigation.

Conclusions.

(1) There is a certain class of case which is quite unsuited to chronic mental hospitals, and for which general hospitals have not yet made provision.

(2) This material consists of (*a*) early or mild cases of orthodox forms of mental illness; (*b*) certain anomalies of the personality and behaviour problems.

(3) In the majority of cases, a thorough analysis of the whole situation shows modifiable factors either in the individual or in his environment. It also shows how many of the illnesses could have been prevented.

The cases quoted above are a sample of what is met with in a psychopathic hospital. In the vast majority of cases the patients were thankful that they had come to the "Psychopathic"; they felt that their interests were being looked after by people who at least made an attempt to understand and not to judge them, and the knowledge that at any time in the future they could come back for advice and help gave them added confidence to face the world, while there was absolutely no stigma attached to having been in the Psychopathic Hospital.

(4) The management of these cases demands a special type of hospital in which a well-organized out-patient department, social service and psychological laboratory are essential.

A strong plea is made for the erection of psychopathic hospitals

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in this country. There is a wealth of material which the psychiatrists in the ordinary mental hospital practice never touch. These patients are not physically ill; their doctors can do very little for them; and the fact that such material exists in this country is supported by even a casual survey of the 400 cases who visited the Psychiatric Clinic of the Western Infirmary, Glasgow, in 1926, to say nothing of the material which must have presented itself at other out-patient clinics throughout the country.

Failing the establishment of psychopathic hospitals, the next best thing is a good out-patient clinic at a general hospital with a proper social service. But the good that can be done by these means is nothing like so great as that which can be done if the patient is actually in hospital for a short time, so that a more complete investigation can be made.

In closing, I must acknowledge my gratitude to Prof. C. Macfie Campbell, Director of the Boston Psychopathic Hospital, and to Dr. A. C. Bonar, Chief Executive Officer of that institution, for permission to utilize the clinical material. My thanks are due to Dr. K. M. Bowman for reading over this paper and correcting several misstatements of fact; to Miss Lyons, Chief of Social Service, and to Dr. F. L. Wells, Chief of the Psychological Laboratory, all of whom have helped me by placing at my disposal the data which have gone to make this paper.

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MENSTRUATION IN RELATION TO MENTAL DISORDERS.*

By F. H. Healey, B.Sc., M.B., Ch.B., D.P.M.,
Assistant Medical Officer, Cheshire County Mental Hospital, Chester.

In July, 1927, at a British Medical Association meeting, in the Obstetrics and Gynæcology Section, G. I. Strachan (16) dealt with the mental side of the hygiene of menstruation. He made the statements that in cases where menstruation was influenced in mental disease it was usually in the direction of excess, and moreover he had found no justification for the text-book statement that insanity was usually accompanied by amenorrhœa. A study of the more important text-books of psychiatry reveals a paucity of information on the subject, and this has stimulated me to collect any facts which have bearing on this interesting problem.

Menstruation may be defined as a periodic change occurring in the human female during the course of adult sexual life, with hæmorrhage as the well-known external manifestation. It has been generally agreed that there is a fluctuation in the whole female economy. Eden and Lockyer (5) state that the pulse-rate, temperature, blood-pressure and urea excretion are raised above normal in the pre-menstrual period, fall below normal at the period of flow and rise to normal during the resting period. Central nervous system disturbances such as headache, backache, excitement or depression are also known to occur.

The only evidence I can find in opposition to these facts is the result of research carried on at the London School of Medicine for Women, under the direction of Prof. W. Cullis (3). There was said to be no change during menstruation in basal metabolism, pulse-rate or blood-pressure, and that the cost to the organism of a certain amount of work and the recovery-rate from work was the same both during menstruation and the inter-menstrual interval.

A study of literature shows that from time immemorial there has existed a taboo concerning the menstruating woman, and in Leviticus, chapter xv, verse 19, is found the Mosaic expression of this tribal ruling. It is known that most ancient customs contain

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at least a grain of truth, and so that this Biblical injunction, too, has some scientific basis. Macht and Lobin (10) claim to have demonstrated the presence of a toxic substance called menotoxin in the blood, milk, saliva and perspiration of menstruating women. This menotoxin has been shown to have a chemical relation to oxy-cholesterol.

In conformity with this statement it is of interest to review recorded cases of variation in pathological processes coincident with menstruation.

Trentini (18) noted pre-menstrual rises of temperature in tubercular women. Increase in intensity of episcleritis at the pre-menstrual period was shown by Ombrain (13). Neulen (12) recorded retinal hæmorrhage synchronous with the onset of the menstrual period. A form of dermatitis associated with dysmenorrhœa was described by Tragant (17). Aschner (1) suggested that vasomotor and nervous disturbances were caused by retention of toxin in cases of irregular menstruation. Carloni and Ferrari (2), in an investigation of eclampsia, found that the highest percentage of eclamptic cases occurs in subjects with irregular menstruation.

A considerable amount of evidence is thus presented in favour of the view that menstruation may be a period of stress.

Blair Bell has shown that the calcium content of the blood-serum is considerably raised above normal in the pre-menstrual phase, falls rapidly during the period of hæmorrhage, and that the menstrual blood contains a high percentage of calcium salts.

Much work has been done by Collip and others to show that calcium metabolism is bound up with parathyroid functioning, and there is an intimate relation between the calcium in the body and the working of the vegetative nervous system.

The changes which are proved to occur in the premenstrual phase can now be aggregated as a sympathicotonia, and in the menstrual period as a vagotonia. These well-known syndromes have been described in detail by Eppinger and Hess, and I would submit that herein lies the explanation of the variation in mental state exhibited by a large percentage of women at the menstrual epochs.

At this point it is interesting to remember Langdon Brown's (9) conception of a "basic tripod" consisting of (1) gonads, (2) endocrines and (3) vegetative nervous system, and to this combination is entrusted both the preservation of the individual and the continuity of the species.

Such degenerative changes in the gonads as have been described by the late Sir Frederick Mott and the late Dr. Laura Foster can be seen to affect the equilibrium of this "tripod," and thus form the basis of the bodily changes seen in the primary dementias. The

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proper functioning of the gonads in females is reflected in a normal menstrual process, and thus abnormalities in menstruation will be expected in psychotic patients.

This physiological and pathological explanation seems more reasonable than the psychological reason given by W. H. B. Stoddart (15). He states that the exacerbation of mental symptoms at menstruation is due to the sexual instinct being strongest at this period, and so tending to escape repression.

The following is a *résumé* of the menstrual histories in 243 patients with psychoses of some duration.

At present I am unable to give figures bearing on the relation between menstruation and the onset of insanity, and between menstruation and recovery. These are still being collected.

Patients examined	474
,, beyond menopausal age . .	231
,, at menstrual age . . .	243
Number showing increase of depression . .	41=16·8%
,, ,, ,, excitement . . .	120=49%
,, ,, no change	49=20%
,, ,, amenorrhœa	33=14·2%
,, ,, dysmenorrhœa	49=20%
,, ,, menorrhagia	29=12%

Conclusions.

It is thus seen that increase of excitement is the commonest change, occurring in about half the cases.

In established cases of psychosis, amenorrhœa occurs roughly in 1 in 7 cases, while dysmenorrhœa reaches the high proportion of 1 in 5 cases.

Menorrhagia occurs in 12% of the cases, which would seem a lower estimate than that of G. I. Strachan (16).

Epilepsy.

This subject seems to deserve a special and separate consideration. Many writers, including such authorities as Gowers (7) and Turner (19), have appreciated the fact that epilepsy is influenced by menstruation.

The statistics of this disorder show marked increase in the female cases in the second and third decades of life at the time when the menstrual function is in evidence. Epilepsy may begin with the first menstrual period, and in certain cases may cease at the climacteric. Cases are recorded where fits occurred at irregular intervals,

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to be grouped at the pre-menstrual period or at the onset of menstruation. There are some cases in which the attacks are confined entirely to the pre-menstrual or menstrual periods, and these may be rightly designated "menstrual epilepsy." Migraine, which is probably an allied condition, is known to show a tendency to occur exclusively at the pre-menstrual period. This was pointed out by Fordyce (6) 150 years ago, and quoted recently by A. F. Hurst (8).

There has been much speculation as to the cause of this association. Muskens (11) has suggested variation in endocrine activity at this epoch. Yet he dismisses in a few lines the possible connection between the gonads and the menstrual periodicity of epilepsy, and refers contemptuously in a foot-note to the treatment of a possible case of "menstrual epilepsy" by double ovariectomy.

My interest in this problem was aroused in 1922, when I was privileged to see a case of "menstrual epilepsy" treated by Mr. Beckwith Whitehouse. He performed double ovariectomy and hysterectomy on this case and the patient has been free from fits since the operation. One other similar case was operated on in the same way, and except for a few fits in the early months following the operation, has been free from attacks.

(I am indebted to Mr. Beckwith Whitehouse for permission to mention these cases, which have not previously been published.)

The latest views on epilepsy incline to a metabolic explanation of the disease, as is well expounded by Collier (4) in his recent Lumleian Lectures. Much biochemical investigation has been carried out, to elucidate the cause of epileptic attacks.

Okey, in 1925, pointed out that at the pre-menstrual period, when fits are often most frequent, blood cholesterol is markedly decreased. Popea and Vicol in the same year concluded that this lowering of cholesterol in the blood was the result, and not the cause of the epilepsy. In 1927, Robinson, Russell, Brain and Kay (14) satisfactorily proved that the fall in blood cholesterol was not the result of the fits and gave figures for 100 cases.

The metabolism of cholesterol is at present little understood. Cholesterol is known to occur in the white matter of the brain, in the corpora lutea, in envelopes of red cells, and in bile. The liver is known to play some part in its metabolism. It is thus interesting to note that the ratio of brain weight to liver weight is greater in epileptics than in normals, as was shown by Thom in 1916.

Macht and Lobin's (10) demonstration that menotoxin is chemically allied to oxy-cholesterol may now be connected with the low blood cholesterol at the menstrual period and at the time of onset of a major proportion of the epileptic attacks.

Further biochemical investigation in this direction would seem

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to offer some hope of a solution of the problem of epilepsy, about which so much has been written and yet so little of causation definitely known.

Epileptics Examined.

Total	73
At menstrual age	53
Cases showing fits at menstrual periods only . .	5
,, ,, increased fit-incidence at menstrual periods.	40
,, ,, dysmenorrhœa	22
,, ,, marked bodily disturbance, *e.g.*, rise of temperature, vomiting, etc. .	3
,, ,, menorrhagia	4

Of menopausal age: Showing cessation of fits at menopause, 3; showing continuance of fits, 17.

Conclusions.

It is seen that a high percentage show the pre-menstrual or menstrual grouping of the fits and that dysmenorrhœa is very common amongst the epileptics.

The continuance of the fits beyond the menopause may be due to the formation of the fit habit, over-ruling the endocrine change.

I am indebted to the Medical Superintendent for permission to publish the statistics included in this paper.

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Clinical Notes and Cases.

*Blood-Pressure and Mental Disease.** By ROBERT THOMPSON, M.B., D.P.M., Senior Assistant Medical Officer, St. Patrick's Hospital, Dublin.

THE purpose of this paper is to illustrate the clinical usefulness of the blood-pressure record, by referring to a number of cases. Throughout I shall deal only with the systolic pressure.

CASE I is that of a married lady, æt. 50, who was admitted in October, 1926, in her first mental illness. She had a healthy, grown-up family. She had been ill for about four months.

On admission patient was apprehensive and depressed, with vague delusions of "something happening to her children," "some calamity overtaking her family," etc. She was most tractable. Physically patient was undernourished, sallow and "worn-looking," with a yellowish complexion. The systolic pressure was 120. Although tall, her weight was only 7 st. 2 lb.

Patient remained in this depressed, apprehensive and somewhat confused state for about six months, when it was noticed that, in spite of her weight being maintained, she had become considerably weaker. The systolic pressure was again taken and was now found to be 85. An examination now revealed areas of pigmentation over the spines of the lower thoracic vertebræ and left iliac crest, thus giving us the three cardinal signs of Addison's disease—low blood-pressure, muscular asthenia and pigmentation. Patient was confined to bed, as the least exertion was too much for her.

The pressure continued to fall until it touched 73, and it remained below 90 for four months. There was no desire for food, vomiting occurred on several occasions, and the weight fell to 6 st. 5 lb. Suprarenal gland extract was prescribed up to gr. vj *t.i.d.* by mouth as soon as the real state of affairs was disclosed, and, in addition, patient was put on a mixture containing liq. strych. ♏v dose, together with hydrochloric acid and gentian; whiskey ℥ss after meals. Various meat extracts were also prescribed. A blood examination at this time revealed a normal number of red and white cells and no evidence of any grave primary or secondary anæmia. The Wassermann reaction also was negative.

Patient was confined to bed for about five months, during which time the pressure gradually rose to 100 mm. and her strength increased.

Patient is still in hospital. The systolic pressure is gradually mounting and is now 112. Her weight is 8 st. 6 lb., and is steadily increasing. I had omitted the suprarenal gland for a time, but have re-prescribed it. Mentally, patient remains apathetic and mildly confused, although she responds wonderfully well to the visits of her relations. She still complains of "queer noises" in the head—a most troublesome symptom throughout. This symptom, I understand, frequently accompanies states of low blood-pressure.

It is to be hoped that, in spite of the presence of the cardinal signs, the case is not one of Addison's disease.

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* A paper read at a meeting of the Irish Division held at St. Edmondsbury, Lucan, on April 12, 1928.

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In the following case the blood-pressure record gave considerable assistance in estimating the gravity of the physical symptoms:

CASE 2.—Mrs. X—, a married lady, æt. 50, was admitted in May, 1927, in a condition one might regard as delusional melancholia, her delusions being that she was quite "unnatural," that "her heart would never stop beating," that "she would live for ever and could not die like other people," etc. The illness had then lasted one and a half years without any sign of improvement.

Just before admission to St. Patrick's she had simulated recovery so well that her husband was persuaded to remove her from the mental hospital where she was, but the old delusions were expressed on the way home and patient was unable to take any interest in the home. Physically, patient was frail, undernourished and sallow, weighing only 6 st. 2 lb. There were a number of carious and septic teeth.

After ten weeks' rest and tonic treatment, it was thought that patient was strong enough to undergo a dental operation and her teeth were removed under a general anæsthetic. Two weeks later alarming weakness was noticed and the blood-pressure was found to be 85, and it continued to fall until, three weeks later, the systolic pressure was only 73. It now looked almost certain that, in spite of our efforts, there would be a fatal issue, as patient was exceedingly weak, with a thready pulse and a glazed, red tongue. However, with strychnine, brandy, suprarenal gland and full doses of glycerine of pepsin, her strength gradually returned and in less than three months she was able to get up. The pressure fell on several occasions, but always quickly increased on a mixture of hydrochloric acid, pepsin and strychnine.

Patient is still in Hospital. Her weight is now 7 st. 2 lb. (At one time it had fallen to 5½ st.) The systolic pressure is still variable, ranging from 100–120. Mentally the patient also varies from apathy and despondency to alertness and apparent cheerfulness. She is most anxious to go home and take up her domestic duties, but many of her old delusions are still in the background I fear, and her physical state is still far from satisfactory.*

The following case, which I shall report briefly, illustrates, I think, the assistance the blood-pressure record may give in determining the cause of an unduly tedious recovery.

CASE 3.—Mrs. Y—, æt. 61, admitted in August, 1925, in a state of agitated melancholia of three weeks' duration. In spite of considerable depression and agitation, patient always managed to take a very considerable interest in the life of the ward. I did not take the blood-pressure until April, 1927, when the systolic pressure was 180. In August, 1927, I took the pressure again and found it to be 250.

A course of potassium iodide was given and the pressure fell to 210. This was discontinued at the end of two months. Mentally, for the past year, patient has been improving slowly but steadily, and her discharge seemed to be well within sight when, a few weeks ago, she had an ominous attack of giddiness. The pressure was found to be 230. Patient is now resting in bed, taking a mixture of iodide of potash and bromide of ammonia, and the pressure has fallen to 100. The headache and throbbing sensations have greatly diminished. There are no symptoms whatever of interstitial nephritis. The outlook in this case is uncertain.†

CASE 4.—A lady, æt. 51, was admitted in December, 1925, as a voluntary patient. She had come from the Crichton Royal, where she had been a voluntary patient for eight months, but had felt no improvement. She was in a state of mild depression, but her great fear was that she would never recover. A curious symptom

* Patient continues to improve mentally and physically. Now able to tolerate gr. x ammon. brom. and iron and ars. *t.d.s.* with distinct benefit. Generally cheerful and self confident. Weight 7 st. 11 lb. Discharge on trial within sight. No further improvement in systolic pressure.

† Further severe attacks of giddiness (once with unconsciousness). Pressure now steady around 215. Resting in bed.

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was that she would burst into a flood of tears at the least provocation and could become comparatively cheerful again the following minute. The blood-pressure was found to be 190, and, by another observer on another occasion, 206. There were no urinary changes. It was pointed out to the patient that her emotional instability was in great part, if not entirely, due to her physical condition, and that she could never hope to become entirely free from it, but that nothing more serious need ever be anticipated. She accepted this explanation, and left the hospital very greatly relieved five months later. I believe she has done well.

At the request of the Medical Superintendent, Dr. Leonard Abrahamson saw this patient and prescribed riodine perles, 1 *t.d.s.*, p.c., ammon. brom., gr. x *t.d.s.*, a blue pill and seidlitz once a week, and a diet free from soups, ham or bacon, and with little salt, little fluid and only white meat. Dr. Abrahamson thought that this might be a case of interstitial nephritis in a very early stage, as there was considerable cardiac hypertrophy.

The almost involuntary attacks of weeping are interesting. I can recall a similar case where involuntary attacks of laughter were accompanied by a systolic pressure of 300 mm. This was a case of Dr. Hildred Carlill's, which I saw at the West End Hospital for Nervous Diseases in 1924. (I am indebted to Dr. Carlill for further particulars and for permission to report the case.) The attacks of laughter were absolutely involuntary, would occur in the middle of the most serious conversation and were most distressing to the patient. Dr. Carlill writes (14.4.28): "The C.S.F. was healthy; the fundal arteries showed sclerosis. She reacted to KI, opium in small doses, rest and also stimulants. She retained her improvement when I saw her last—a year ago."

A colleague, on finding the blood-pressure of a case of chronic mania to be 200, made further investigations, and discovered that the patient was passing 100 oz. of urine daily, of a low specific gravity, containing a trace of albumen and granular casts, thus establishing an unexpected diagnosis of interstitial nephritis.

In recent cases exhibiting hallucinosis, I have found the systolic pressure considerably lower than normal. Taking seven recent admissions where hallucinosis was, or had recently been, a prominent feature, the average systolic pressure was 110, and the average age 40 years. I am trying suprarenal gland at present for these patients, but I shall welcome other suggestions for raising the pressure in these cases.

Unfortunately some of the pressures recorded in the above cases were taken in the recumbent and some in the sitting position. I now take all pressures, except in cases of extreme weakness, in the sitting position. I use the ordinary clock-dial instrument, checking it from time to time against a mercury instrument.

The systolic pressure was regarded as the moment the pulse was

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re-established after obliteration (checked several times). Occasional sharp rises due to the excitement of the operation can be easily detected, as the pressure continues to fall during the operation —each check reading being lower than the previous.

Conclusions.

1. The blood-pressure may shed valuable light on difficult cases.
2. It may give a useful indication for treatment.
3. It may be, in certain cases, an accurate guide to the progress of the patient under treatment.

My thanks are due to the Superintendent of the Hospital for permission to make use of these records.

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*The Treatment of General Paralysis.** By C. B. BAMFORD, M.D.

DURING the year 1927, 60 cases of this disease were admitted to Rainhill Mental Hospital. In an attempt to gain improved results treatment was carried out in a more intensive and systematic form than has ever been the practice in this hospital. Malarial therapy was persevered with, but in most cases was modified by the exhibition of tryparsamide.

It was originally intended to precede the malarial infection by a course of tryparsamide given intravenously at weekly intervals. This plan has been carried out, with certain exceptions due to the necessity of maintaining the malarial strain in the hospital.

The effects of this modification of the usual method of treatment have been carefully observed.

Fourteen of these 60 cases were considered to be too far advanced to benefit by treatment, while 10 of the remaining 46 were also admitted in an advanced state and were treated at the request of their relatives, but, as we expected, with very little benefit.

From the point of view of improvement following treatment, the remaining 36 cases have been classified as follows:

Group 1, comprising 13 cases, all of which have been discharged. These cases are considered as having mentally recovered and physically improved—sufficient to warrant their return to outside life.

In this group, 2 of the cases had malaria only and 1 tryparsamide only, but the remaining 10 cases had the combined courses of malaria and tryparsamide.

Group 2, comprising 13 cases. These are considered as showing partial mental recovery with considerable physical improvement.

* Abstract of a paper read at a Divisional Clinical Meeting held at Rainhill Mental Hospital, May 2, 1928.

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It is quite likely that a number of these will continue to improve and come to be classified in Group 1. The rest have lost all their acute mental symptoms and we now consider them as stationary from the point of view of their mental condition. The majority are very well conducted and have developed into useful members of the hospital community.

In this group 2 cases have had tryparsamide only, but the remainder (11 cases) have undergone the combined course of treatment.

Group 3, comprising 5 cases. All these have shown some degree of physical improvement, but little, if any, mental improvement. All except one of the cases have had a combined course of treatment.

Group 4, comprising 5 cases, all of which are showing progressive mental and physical deterioration. Generally, treatment in these cases evoked such an unsatisfactory response that it was not fully pursued.

Conclusions.

It may be said that the results are the best yet obtained at this mental hospital.

It will be seen that out of the 46 treated cases 25% have been discharged already, and that this figure will probably be increased in the near future. Moreover, in another 30% of the cases distinct improvement has been effected, whilst of all the cases treated, less than 12% have failed to improve. To record such figures as the above represents a distinct advance in the treatment of this disease.

1. It is essential to have the clinical diagnosis of general paralysis confirmed by full serological examination. This we emphasize, because (*a*) the mental symptomatology of general paralysis is so varied, and (*b*) the early case will frequently be missed if reliance for a diagnosis is placed solely upon classical symptoms and physical signs. The outcome of this conclusion has been the adoption of routine examination of the blood and cerebro-spinal fluid of all newly admitted cases in this hospital.

2. If such investigation is carried out early, general paralysis can no longer be looked upon as hopeless, because intensive treatment does effect immediate improvement.

3. Treatment should consist of one full course of tryparsamide (ten weekly injections of 3 grm. each), followed by a series of malarial rigors—12 if possible. We believe this sequence is better than the reverse order, *i.e.*, malaria followed by tryparsamide, for the following reasons :

(*a*) Loss of weight is a prominent early symptom of general paralysis, and this can be effectively counteracted by immediate

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administration of tryparsamide. In our experience, every case that is going to benefit will show pronounced physical improvement under the influence of this drug, thus effectively enabling the patient to undergo a full course of malaria.

(*b*) Further, it has been repeatedly demonstrated to us that when malarial treatment is given prior to tryparsamide it is not devoid of danger from physical collapse, frequently demanding curtailment of the full course.

(*c*) Thus, to obtain the maximum therapeutic benefit from malarial pyrexia, tryparsamide acting as an anti-syphilitic tonic and alterative factor should first of all be given.

(*d*) Moreover, where only one therapeutic factor is available, tryparsamide appears capable of producing quite a good immediate improvement in the mental symptoms without the accompanying physical prostration attendant upon a course of induced malaria. The drug often appears to act as a sedative in the maniacal type of case, gradually allaying mental excitement and motor restlessness.

In this hospital it is now accepted as routine to administer firstly a full course of tryparsamide, to be followed by malaria.

4. *Serological conclusions.*—(*a*) The gold-curve is little, if at all, affected by therapeutic measures. We are of opinion that this test, being the most stable, is of primary diagnostic importance. Other tests we look upon as confirmatory, this as diagnostic.

(*b*) All cases which improve clinically with treatment have shown corresponding serological improvement, but the converse has not been established.

(*c*) Changes in the cerebro-spinal fluid have followed much more consistently upon the administration of tryparsamide than upon that of malaria. In other words this investigation demonstrates that, serologically, tryparsamide is a more potent therapeutic agent than malaria.

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Medico-Legal Notes.

PROPOSALS are, from time to time, put forward for the compulsory sterilization of mental defectives. Some of the States of America have statutes which legalize such sterilization, Virginia being one of these. Doubts were recently expressed whether such a statute was constitutional, and a case was taken to the United States Supreme Court. That court decided (one judge dissenting) that the law was constitutional. Some points in the judgment are of general interest. The court found that "Carrie Buck" (who seems to have been the plaintiff in the case) "is a feeble-minded woman, is the daughter of a feeble-minded mother in the same institution, and is the mother of an illegitimate, feeble-minded child. She is also the probable parent of socially inadequate offspring. She can be sexually sterilized, without detriment to her general health, and her welfare and that of society will be promoted by her sterilization." An order for sterilization was, accordingly, made. The judgment proceeded as follows: "We have seen that the public welfare may call upon the best citizens for their lives. It would be strange if it could not call upon those who already sap the strength of the State for these lesser sacrifices, in order to prevent our being swamped with incompetents. It is better, if instead of waiting to execute degenerate offspring for crime, or to let them starve for their imbecility, society can prevent those who are manifestly unfit from continuing their kind. The principle that sustains compulsory vaccination is broad enough to cover the cutting of the Fallopian tubes. But it fails because it is confined to the small number who are in institutions and is not applied to the multitudes outside which is the usual last resort of constitutional arguments to point out shortcomings of this sort. The answer is that the law does all that is needed when it does all that it can, indicates a policy, applies it to all within the lines, and seeks to bring within the lines all similarly constituted, so far and so fast as its means allow." The judgment further pointed out that such operations would enable those who otherwise must be confined to institutions to return to the world.

It will be seen that the arguments upon which this decision is based are those which are urged by advocates of "eugenics." Whatever views we may hold upon this complicated and disputed question, the importance of such a judgment, from so high a court, will at once be recognized.

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Occasional Notes.

THE TRAINING AND EXAMINATION OF MENTAL NURSES.

REPORT ON QUESTIONNAIRE.

Introduction.

The object of issuing the questionnaire (dated January, 1928), to the Recognized Training Schools was two-fold. On the one hand, should the General Nursing Councils require alterations in the Association's Regulations for the Training and Examination of Mental Nurses before accepting the Association's Nursing Certificate for registration, the question would arise in what directions and how far the Association could go towards satisfying the General Nursing Councils. On the other hand, information direct from the Recognized Training Schools was desired as to possible improvements in the Association's Regulations, and it was possible that this might assist towards the solution of the former.

With this twofold object in view questions were asked on the following matters:

(*a*) How far the holding of a certificate of proficiency in mental nursing had become compulsory before a nurse could be graded as a staff nurse, and the source of the certificate recognized for this purpose.

The answers to these questions would show the need, apart from the question of State registration, for an examining body to meet this requirement, and would also have a bearing on the solution of the question raised in (*b*).

(*b*) The reasons why candidates were not entering for the General Nursing Councils' Examinations. They would naturally be of two kinds, those personal to the candidate and those relating to the Training Schools.

Reasons substantial in nature and extent would not be matters upon which the Association could give way in any negotiations with the General Nursing Councils.

To throw light on this matter inquiries were made in the following directions:

A question was put in order to ascertain how many hospitals were not recognized as Training Schools by the General Nursing Councils. Obviously these hospitals had no call to prepare candidates for the General Nursing Councils' Examinations.

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Those hospitals recognized by the General Nursing Councils, but which did not prepare candidates for the General Nursing Councils' Examinations, were asked to state the reason why.

Definite information was sought on circumstances known to operate against candidates entering for the General Nursing Councils' Examinations, such as the distance from hospital to the examination centre, travelling and other expenses incurred by attendance at examination centres, the number of candidates a hospital could spare to attend at centres and how far this would limit the number as against the number who could attend if the examination were held locally.

In the General Nursing Councils' scheme the written examination may be held locally if 25 candidates can be guaranteed. It was important to know how many hospitals were unable to avail themselves of this arrangement.

The question was also asked whether, granted the General Nursing Councils' scheme were adopted, the hospital could give the candidates six months' training in bedside nursing prior to entering for the Preliminary Examination [which training would be needed in the first 12–18 months of service]. Although this training may be taken any time before entering for the Final Examination, without it candidates would be handicapped at the Preliminary Examination.

(*c*) One well-known objection to the General Nursing Councils' Preliminary Examination is that candidates are not examined in regard to "General Duties" and "Accidents and Emergencies."

The Association holds that the sooner nurses in mental hospitals are trained in these subjects the better—indeed, without an adequate knowledge of them a nurse might be a source of danger. Did those hospitals training for the General Nursing Councils' Examinations postpone this instruction until the Preliminary Examination had been passed?

(*d*) The opposition to the resolution debated on November 17, 1927, was judged to be the fear that mental nurses might be excluded from the one-portal of entry afforded by the State to the nursing profession, and which it was said offered every nurse an equal status. It seemed therefore important to know exactly the attitude of the Training Schools on this matter. It must be remembered that the one-portal idea was put forward after the General Nursing Councils had been established, and the Association's views regarding it were not ascertained, though the one-portal idea appears to have originated with one, if not two, members of the Association. An appropriate question on this matter was therefore included in the questionnaire.

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(*e*) The point was raised at a meeting of the Association, as far back as 1923, by a member that the Preliminary Examinations of the Association and of the General Nursing Councils might be held at the same time and place or be made interchangeable. He suggested that it would be advantageous to the general nurse if she were required to have an elementary knowledge of mental disorder and of the nursing of it. If this and "First Aid" were included in the subjects for the General Nursing Councils' Preliminary Examination, it might lead to an agreement. A question was therefore put to ascertain the views of the Association on this.

GENERAL SUMMARY AND COMMENTS.

The questionnaire was issued to Recognized Training Schools in:

England and Wales . . .	125
Scotland	31
Ireland	27
Total	183

Reports were returned from:

England and Wales . . .	89
Scotland	19
Ireland	10
Total	118

Question.—*Whether a certificate of proficiency in mental nursing is required for grading as a staff nurse, and, if so, what certificate is recognized:*

Answer.—All hospitals but 6 (110 out of 116 reporting) require a certificate for this purpose.

The Royal Medico-Psychological Certificate is recognized by 109 hospitals.

Either the Royal Medico-Psychological Certificate or General Nursing Councils' Certificate is recognized by 34 hospitals.

The General Nursing Councils' Certificate only is recognized by one hospital.

Deduction.—A certificate, whether State registrable or not, *is* required. In three hospitals only has the training for the Certificate of the Royal Medico-Psychological Association ceased in favour of the General Nursing Councils' Certificate.

Questions *designed to ascertain why candidates are not entering for the General Nursing Councils' Examinations:*

[It should be noted that the figures relate to General Nursing

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Councils of England and Scotland only. The Irish Councils have not yet held examinations in mental nursing.]

Answers.—(*a*) Out of 108 mental hospitals, 104 are recognized as Training Schools by the General Nursing Councils. Of these, 60 prepare candidates, and 51 have entered candidates.

Candidates for the General Nursing Councils' Examinations, 1925–27:

		Males.	Females.	Total.
Total number entering from 51 Training Schools	Prelim.	105	309	414
	Final	50	100	150
Average annual number of candidates per Training School	Prelim.	0·6	2·0	2·6
	Final	0·3	0·6	0·9

Out of 118 mental hospitals, only 3 do not prepare candidates for the Royal Medico-Psychological Association's Examinations, namely Cardiff, Maidstone and Wakefield. Seven mental hospitals made no return of number of candidates.

Candidates for the Royal Medico-Psychological Association's Examinations, 1925–27:

		Males.	Females.	Total.
Total number entering from 108 Training Schools	Prelim.	2,456	3,257	5,713
	Final	2,696	2,553	5,249
Average annual number of candidates per Training School	Prelim.	7·6	10·0	17·6
	Final	8·2	7·8	16·0

[Totals refer to entries not entrants.]

Deduction.—The complaint that the mental hospitals do not prepare candidates for the General Nursing Councils' Examinations can apply only to 44 out of the 108 returning reports. Of the 64 remaining, 51 have entered candidates, 9 prepare but did not enter any candidates, and 4 are not recognized by the General Nursing Councils as Training Schools.

These figures, however, require further analysis before their real significance becomes apparent.

Of the 3 hospitals with under 200 beds entering candidates for the Preliminary and Final Examinations of the General Nursing Councils' Examinations, out of 15 entries, 13 were from Barnwood House.

Out of 203 candidates entering from 18 hospitals of 200 to 1,000 beds, 41 were from Cardiff, 34 from Leicester City, and 24 from the Retreat, York. Total 99, leaving 104 to be accounted for by the other 15 Training Schools of this group—roughly 7 entries each.

Of the 30 hospitals of 1,000 or more beds, out of 346 entries, 99 were from Maidstone, 77 from Claybury, 28 from Wakefield, and 27

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from Hanwell, leaving 115 to be accounted for by the other 26 Training Schools of this group—about 4 entries each.

The reports from the following hospitals, then, are of special interest.

Barnwood House.—This hospital entered, in the year 1926, for the General Nursing Council's Preliminary 1 male and 10 female nurses. In the following year, 1927, there were no entries for the Preliminary, but 3 nurses entered for the Final Examination. It is significant that in 1926 no candidates entered for the Royal Medico-Psychological Association's Preliminary Examination, but 14 entered in 1925 and 7 in 1927. The Royal Medico-Psychological Association's Final Examination figures were: 1925, 4; 1926, 5; 1927, 5. Apparently the General Nursing Council's Preliminary Examination replaced the Royal Medico-Psychological Association's Preliminary Examination in 1926 only.

The distance from the hospital to the nearest General Nursing Council's Examination centre is 40 miles, and travelling expenses were—1st day, 9*s.* 9*d.*; 2nd day, 28*s.* 8*d.*

Cardiff.—Dr. Goodall writes: "As you are aware, the General Nursing Council exempt those on their Mental Register from passing their Preliminary, and from one year's training if the mental nurse takes up General Nursing. It is considered that the Mental Nurse's status, *vis-à-vis* the General Nurse, is better if she holds the General Nursing Council's Certificate. Any procedure which tends to demarcate the mental from the general nurse is strongly to be deprecated. It is considered that a separate mode of certification (as by Royal Medico-Psychological Certificate) does this. Looking ahead, it is believed psychiatric clinics connected with general hospitals are inevitable. Hospital nurses trained in them will prefer the certificate issued by the same body (General Nursing Councils) that issues the General Certificate—a one-portal system."

The junior staff changes wards every three months, and all take turns at night duty; so every candidate obtains actual bedside nursing before entering for the Preliminary Examination. Instruction in "General Duties" and "Accidents and Emergencies" is given for the Final Examination.

Candidates are not now prepared for the Royal Medico-Psychological Association's Examinations.

The practical outcome of the new system is that the entries for the General Nursing Council's Examinations were:

Preliminary Examination.	*Final Examination.*
1925, Males 1, females 11.	1926, Males 1, females 8.
1926, ,, 1, ,, 7.	1927, ,, *nil*, ,, 4.
1927, ,, *nil*, ,, 8.	

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The distance from the hospital to the nearest General Nursing Council's Examination Centre is represented by a 20 minutes' motor 'bus ride.

The hospital accommodates 660 patients, and has a staff of 86 female and 40 male nurses.

Leicester City.—All entries for the Royal Medico-Psychological Association's Preliminary Examination have ceased. As regards the General Nursing Council's Examinations, the entries were:

Preliminary Examination.	*Final Examination.*
1925, Males 8, females 6.	1927, Males 4, females 2.
1926, ,, *nil*, ,, 10.	
1927, ,, *nil*, ,, 4 (including 1 re-entry).	

Candidates attend examinations in their own "off-duty" time.

The distance to the nearest centre is 25 miles, fare 6*s.* 2*d.*

The hospital accommodates 945 patients. Nursing staff—females 61, males 45.

The net result of three years' experience of the new system is: 4 male and 2 female entrants for the Final Examination out of 8 males and 19 females who had entered for the Preliminary Examination.

The Retreat, York.—Although 21 nurses entered for the General Nursing Councils' Preliminary Examination, there has been no falling off in the entries for the Royal Medico-Psychological Association's Preliminary Examination. The net result has been 3 entrants for the Final General Nursing Council's Examination in 1927.

Obviously the Retreat is offering adequate facilities for both examinations, which is the official policy of the Association.

The nearest centre is 23 miles away, travelling expenses 6*s.* 4*d.*

The hospital accommodates 200 patients. Nursing staff—females 60, males 30.

Maidstone.—The views of the Medical Superintendent (Dr. H. Wolseley-Lewis) are in line with those of Dr. Goodall. Referring to the attitude of the nurses he says: "..... they prefer to take the General Nursing Council's Certificate as it enables those who desire to qualify in other branches of nursing without doing the Preliminary a second time. It is also a registrable qualification, and confers the same professional status as in other branches of nursing."

The figures given in support of this statement are:

Preliminary Examination.	*Final Examination.*
1925, Males *nil*, females 29.	1925, Males *nil*, females 4.
1926, ,, 4, ,, 24.	1926, ,, 1, ,, 3.
1927, ,, 4, ,, 13.	1927, ,, 1, ,, 16.

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Dr. Wolseley-Lewis stated at the November meeting, 1927, that "his institution had sent up 89 candidates, of whom 51 had passed, an average of 63%, etc."

Bedside training is given before the Preliminary Examination, "General Duties" also in the first year, and "Accidents and Emergencies" in the second year.

The feeling in favour of the General Nursing Council's Certificate seems to be strongest on the female side.

The nearest examination centre is 36 miles away, travelling expenses, 5*s.* 6*d.*

The hospital accommodates 1,880 patients. Nursing staff—females 164, males 79.

Claybury.—Equal opportunities are afforded for both schemes, and a large staff and a near centre make the General Nursing Council's scheme practicable. There is a tendency for a falling off of male entries for the General Nursing Council's Preliminary Examination. No males entered for the Royal Medico-Psychological Association's Preliminary Examination in 1925—all went in for its companion, but allegiance to the Royal Medico-Psychological Association returned in 1926, and in greater degree in 1927. In the latter year 5 males only entered for the General Nursing Council's Preliminary Examination.

The hospital accommodates 2,242 patients. Nursing staff—females 213, males 180.

Wakefield.—The Royal Medico-Psychological Association's examinations ceased in 1926, the reason stated being :

"After careful consideration we decided to adopt the one-portal system of the General Nursing Councils. We are satisfied from our experience that the Preliminary Examination of the Royal Medico-Psychological Association by no means attains to the standard of that of the General Nursing Councils, and could well be much improved."

In support of this, the entries for the General Nursing Council's Examinations were :

Preliminary Examination.	*Final Examination.*
1925, Males 7, females 6.	1925, Males *nil*, females *nil*.
1926, ,, *nil*, ,, 2.	1926, ,, *nil*, ,, 1.
1927, ,, 1, ,, 5.	1927, ,, 6, ,, *nil*.

The net result is 6 male and 1 female entrants for the Final Examination out of 8 male and 13 female nurses who had entered for the Preliminary Examination.

A certificate of proficiency in mental nursing is not essential for the position of staff nurse.

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The hospital accommodates 2,320 patients. Nursing staff—females 290, males 188.

Hanwell.—At this hospital support for the General Nursing Council's Examinations comes from the female nurses only. The entries for the Preliminary Examination are rapidly diminishing, as shown by the following figures: 1925, 15; 1926, 5; 1927, 3. In the latter year only 6 entered for these examinations, as against 56 male and 51 female nurses for the Royal Medico-Psychological Association's Examinations. Equal opportunities are afforded for both schemes.

Dr. Daniel faithfully carries out the Birmingham (1925) resolution, and the General Nursing Council's Preliminary Examination is taken AFTER the Association's Preliminary.

Deduction.—A fair *conclusion* from the facts detailed in the reports from these hospitals is that where the choice is left freely to the staff little or no headway has been made by the General Nursing Councils' Examinations. In one only of those hospitals which give definite preference to the General Nursing Councils' Examinations, can any degree of success be claimed.

The answers to the direct question (*b*) put to 44 hospitals as to why candidates were not prepared for the General Nursing Councils' Examinations may be summarized as follows:

Reasons given.	Number of occasions. Hospitals under 200 beds.	200 to 1,000 beds.	Over 1,000 beds.	Total.
No entries	2	17	10	29
Expenses too great	1	14	13	28
Examinations too distant; time away from hospital too long	1	5	1	7
Not possible to prepare candidates for both Examinations	—	2	2	4
Royal Medico-Psychological Association's Examination sufficient	2	4	4	10
Too much sick nursing for male staff	—	1	—	1
General Nursing Councils' Certificate not recognized for proficiency pay	—	—	2	2
No advantage in registration	—	—	2	2
No "First Aid" in General Nursing Councils' Examinations	—	—	1	1

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(*c*) Circumstances incidental to the holding of the General Nursing Councils' Examinations:

The distance from the hospitals to the nearest examination centres may be gauged from the following table:

Distance.	Reports.	Distance.	Reports.
Under 5 miles .	10	50 to 60 miles	5
5 to 10 ,, .	11	60 ,, 70 ,, .	6
10 ,, 20 ,, .	26	70 ,, 80 ,, .	3
20 ,, 30 ,, .	24	80 ,, 100 ,, .	2
30 ,, 40 ,, .	11	100 miles and over	3
40 ,, 50 ,, .	10		
		Total .	111

The return railway fare from hospital to the nearest examination centre is stated in most reports. Excluding those cases in which this is under 7*s*. 6*d*. the information given on this point may be summarized as follows:

7*s*. 6*d*. to 10*s*. .	14 hospitals	28*s*. 8*d*. . .	1 hospital.
10*s*. 6*d*. to 15*s*. .	16 ,,	33*s*. . .	1 ,,
15*s*. 6*d*. to 18*s*. .	6 ,,	35*s*. . . .	1 ,,
22*s*. 6*d*. to 24*s*. 6*d*.	2 ,,	36*s*. . . .	1 ,,
24*s*. 6*d*. . .	1 hospital.		—
28*s*. . . .	1 ,,		44 hospitals.

In regard to 30 hospitals the railway fare is from 5*s*. to 7*s*., and in about 30 hospitals the amount is stated to be from a few pence to 5*s*.

Cost of subsistence is put down at 3*s*. 6*d*. to 7*s*. 6*d*. per day. If the night has to be spent at the Examination Centre there is, in most cases, a further expenditure of from 12*s*. 6*d*. to 17*s*. 6*d*.

It should be remembered that attendance at an Examination Centre may be required on more than one day for the Final Examination.

These travelling and subsistence expenses can be avoided as regards the Written Examination if 25 candidates can be guaranteed.

Inquiry as to how many hospitals are in a position to avail themselves of this arrangement yields the following results:

Can guarantee 25 candidates . .	8	hospitals.
Cannot guarantee 25 candidates .	102	,,
No reply	8	,,
	118	hospitals.

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The number of candidates who could be spared from duty to attend at Examination Centres would be restricted in no less than 65 hospitals.

Other hospitals say " No," " Probably," " Possibly," " Doubtful," " Cause inconvenience," etc.

This is an important point, as no system of holding examinations which requires the absence of nurses for more than half a day on each occasion is likely to commend itself to the Royal Medico-Psychological Association's Training Schools.

Deduction from (*b*), (*c*).

The information supplied in the above paragraphs is conclusive that there are substantial reasons for 44 English and Scottish Hospitals not preparing candidates for the General Nursing Councils' Examinations; these reasons account also for the small number entering in the case of the majority of those hospitals which do prepare candidates. Such facts therefore give no support to the accusation, not infrequently levelled at members of the Association, that opposition to the General Nursing Councils' Examinations is responsible for the small number of entries for these examinations.

Questions *designed to ascertain the views of the Training Schools on the "one-portal" entry to the nursing profession:*

Answer.—It may be said that the General Nursing Councils in adopting the one-portal system represented the ideals of the Association, but this is not the opinion of the majority of those who have to regard the matter from a practical rather than an idealistic point of view, namely, the Heads of Training Schools.

On the point whether the one-portal Preliminary Examination would be improved by the addition of a requirement of an elementary knowledge of the symptoms of mental disorder, and " First Aid," there is an almost unanimity of opinion. Out of 97 Training Schools answering the question on this point there were only 4 dissentient.

Questions *inviting suggestions for improving the Association's Regulations for the Training and Examination of Nurses.*

Answers.—These may be summarized as follows:

(i) The *Handbook for Mental Nurses* to be revised and simplified, especially as regards psychology and the anatomy and physiology of the nervous system.

[*Reports from Ayr, Bristol, Maryborough, Nottingham City, The Old Manor, Kingseat, East Riding, Berks Co., The Coppice.*]

(ii) The Medical Superintendents not to examine their own candidates.

[*Reports from Nottingham City, Winson Green, Cheddleton, Brentwood, Wakefield, Hanwell, Warwick, Barnwood House, Kirklands, Coton Hill.*]

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(iii) The Intermediate Examination to be re-introduced.
[*Reports from Winson Green, Rubery Hill, Warwick, Riccartsbar.*]

(iv) A list of equipment for the examination to be issued.
[*Reports from Bangour, Barnwood House, Virginia Water.*]

(v) Training cards to be instituted.
[*Reports from Nottingham City, Winson Green, Horton.*]

(vi) A rota of examiners to be appointed by the Association and chosen geographically, each pair to undertake the examination in a group of hospitals.
[*Reports from Warwick, Barnwood House.*]

(vii) Other suggestions are: "A live register" [*Cheddleton*]. "Examination Centres" [*Cheddleton, Barnwood House*]. "Co-adjutors and Nurse Examiners to be appointed by the Education Committee" [*Springfield*]. "More knowledge of Bedside Nursing" [*Wakefield*]. "Examinations to be held once a year" [*Riccartsbar*]. "Theory and Practice of Nursing to be transferred to the Preliminary Examination and Nurse Coadjutors to be appointed for that examination" [*Bangour.* For *Barnwood House* add "in part" after "nursing"]. "Tutorial Book to be officially prepared and issued by the Association" [*Bristol*]. "Revision of marking by the Nurse Coadjutors—on the 33·3% basis she can pass candidates rejected by both the Medical Superintendent and Coadjutor" [*Cheddleton*]. "The number of demonstrations to be increased and be divided into (*a*) Mental Nursing Specials by the Medical Officer, and (*b*) Sick Nursing by the Sister Tutor" [*Cheddleton*]. "The Abolition of 'compulsory questions' in the Final Examination" [*Brentwood.*] "Additions to syllabus such as 'drill,' 'dancing,' 'occupational therapy,' etc." [*several hospitals*].

Many of these suggestions are conveyed in helpful letters, and, no doubt, will be considered in due course by the Educational Committee.

Appended are brief summaries of the answers to the questionnaire according to the size of the hospitals, drawn up by Dr. W. J. T. Kimber, Honorary Secretary of the Educational Committee. His analysis and general summary of the answers have been most helpful in preparing these notes. J. R. LORD.

APPENDIX.

1. *Hospitals with under 200 patients.*

Number of reports, 13.

All prepare for Royal Medico-Psychological Association's Certificate.

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5 and one additional for female nurses only are recognized by General Nursing Councils (England and Scotland).

3 prepare for General Nursing Councils' Examinations and have all entered candidates.

Candidates for the General Nursing Councils' Examinations, 1925–27:

		Males.	Females.	Total.
Total number entering from 3 Training Schools	Prelim.	1	11	12
	Final	0	3	3
Average annual number of candidates per Training School	Prelim.	0	1	1
	Final	0	0·3	0·3

Candidates for the Royal Medico-Psychological Association's Examinations, 1925–27:

		Males.	Females.	Total.
Total number entering from 11 Training Schools	Prelim.	367	679	1,046
	Final	363	369	732
Average annual number of candidates per Training School	Prelim.	11·1	20·5	31·6
	Final	11·0	11·1	22·1

10 require the Royal Medico-Psychological Association's Certificate for Staff Nurse. In one case either certificate is accepted, two require no certificate and one does not say.

None can guarantee 25 candidates for examination.

9 can give 6 months' bedside training prior to the Prelim., one cannot, and 3 are doubtful answers.

As regards the one-portal question, the answers are:

Essential	2
Desirable	4
No	6

10 agree to suggested alterations in General Nursing Councils' Preliminary and one does not.

3 would be restricted by attendance at a Centre and one would not.

2. *Hospitals of* 200–1,000 *patients.*

Number of reports, 58.

One does not prepare for Royal Medico-Psychological Association's Certificate.

52 are recognized by General Nursing Councils (England and Scotland).

21 prepare for General Nursing Certificate, and of these 3 have no entries.

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Candidates for the General Nursing Councils' Examinations, 1925–27:

		Males.	Females.	Total.
Total numbers entering from 18 Training Schools	Prelim.	36	109	145
	Final	19	39	58
Average annual number of candidates per Training School	Prelim.	1	2	3
	Final	0	1	1

Candidates for the Royal Medico-Psychological Association's Examinations, 1925–27:

		Males.	Females.	Total.
Total number entering from 54 Training Schools	Prelim.	501	781	1,282
	Final	463	415	878
Average annual number of candidates per Training School	Prelim.	3·0	4·8	7·8
	Final	2·9	2·5	5·4

In 57 hospitals the Royal Medico-Psychological Association's Certificate qualifies for Staff Nurse. In 13 either certificate is accepted, and one requires no certificate.

2 can guarantee 25 candidates and 54 cannot.

26 can give 6 months' bedside training prior to the Prelim., and 24 cannot.

As regards the one-portal question, replies are:

Essential	8
Desirable	10
No	33

41 agree to the suggested alterations in General Nursing Councils' Preliminary and 3 do not.

26 would be limited by attendance at a Centre and 17 would not.

3. *Hospitals with over* 1,000 *patients.*

Number of reports, 47.

2 do not prepare for Royal Medico-Psychological Association's Certificate.

47 are recognized by General Nursing Councils (England and Wales.

36 prepare for General Nursing Certificate, and of these 6 have no entries.

Candidates for the General Nursing Councils' Examinations, 1925–27:

		Males.	Females.	Total.
Total numbers entering from 30 Training Schools	Prelim.	68	189	257
	Final	31	58	89
Average annual number of candidates per Training School	Prelim.	·7	2	3
	Final	0	·6	1

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Candidates for the Royal Medico-Psychological Association's Examinations, 1925–27 :

		Males.	Females.	Total.
Total number entering from 43 Training Schools	Prelim.	1,588	1,797	3,385
	Final	1,870	1,769	3,639
Average annual number of candidates per Training School	Prelim.	12·3	13·9	26·1
	Final	14·5	13·7	28·2

In 42 hospitals the Royal Medico-Psychological Association's Certificate is necessary for Staff Nurse. One requires General Nursing Councils' Certificate, in 20 cases either certificate is accepted, 3 require no certificate, and one does not say.

6 can guarantee 25 candidates and 35 cannot.

25 can give the preliminary 6 months' bedside training prior to the Prelim., and 22 cannot.

As regards the one-portal question replies are : Essential . 13; Desirable . 5; No . . 24

42 agree to suggested alterations in the General Nursing Councils' Preliminary.

30 would be limited by the requisite attendance at a Centre and 15 do not anticipate difficulty.

THE ASSOCIATION AND THE STATE REGISTRATION OF MENTAL NURSES.

THE following observations may be useful in any negotiations with the General Nursing Councils which may follow the effort now being made to bring about the recognition of the Association's Mental Nursing Certificate for admission to the State Registers of Mental Nurses.

MATTERS NOT NEGOTIATORY.

(*a*) *Examination centres other than at the Mental Hospitals.*—The answers to the Questionnaire appear to settle this point conclusively.

Attendances at fixed centres needing absence from hospital for a whole day or days would restrict the number of candidates in no less than 65 hospitals. The Local Authorities would not tolerate such restrictions. In arguing this point it can be advanced that at most mental hospitals under Local Authorities there is but little change year by year in the nursing requirements. These

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hospitals for the most part are full and staffed with the *minimum* necessary for the care and treatment of the patients and the "leave" of the nurses. Furthermore, for a few days' stress, public mental hospitals cannot, like general, fever and other hospitals, secure a number of temporary nurses.

So every training school recognized by the Association should be an examining centre, except those situated so near to each other that they can, for convenience of the Inspector of the General Nursing Councils, agree upon one hospital as a centre for the examinations.

(*b*) *Examiners.*—It is not likely that any scheme can be evolved which will prevent a candidate being examined by his hospital's Superintendent or Senior Medical Officer or Matron. *This is not even guaranteed by the General Nursing Councils.*

Adjustment of the system of examiners is possible and will be dealt with later.

(*c*) *Training.*—The Association could not commit every recognized school to all the requirements of the General Nursing Councils in regard to training in sick nursing. To do this would lead to not a few hospitals being removed from the Association's list of training schools. There should instead be a plain acceptance by the General Nursing Councils of the fact that the Association's certificate is primarily one in mental nursing.

We can, however, meet the General Nursing Councils to some extent.

Training also involves the syllabus.

(*d*) *Syllabus.*—The part of the syllabus likely to be called in question is that for the preliminary examination.

In the General Nursing Council's Examinations, "General Duties of Nurses in a Mental Hospital" and "First Aid" of necessity have been wrenched from their proper position as subjects for the preliminary examination and postponed to the final examination. The reason is obviously the adoption by the General Nursing Councils of the one-portal system of entry.

The Association has no adequate grounds for revising its opinion in this matter, and the replies to the Questionnaire show that the Association has in fact not changed it.

Whatever value the General Nursing Councils may put on these subjects as matters for early general training, there is no doubt that they are the first upon which the mental nurse needs instruction. In the London County mental hospitals they constitute a large part of the syllabus of instruction for probationers during their preliminary six months' service.

In the Association's syllabus, the "Theory and Practice of Nursing" is identical with that in the syllabus of the General

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Nursing Councils, except that in the Association's syllabus it is dealt with as a whole subject, and not split up between the examinations.

The General Nursing Councils' "Class Instruction" should not be unattainable in any recognized training school, however small, but "Ward Instruction" is undoubtedly heavy for most mental hospitals, and many of the recognized training schools could not be committed to carry it out.

(*e*) *Examination subjects.*—The last point is the suggestion that the examinations should be arranged and marked more definitely in subjects than at present. It will be noted that the General Nursing Councils' division of their examinations into subjects is not entirely logical. One "subject" in the preliminary examination consists of (*a*) the paper on anatomy and physiology and the oral and practical in anatomy, physiology and hygiene; and (*b*) another paper on hygiene and nursing and the oral and practical in nursing.

There are obvious reasons for mental nursing examinations being conducted orally, practically and in writing on the *whole field* of the syllabus, and the Association should not make any essential change in this matter.

These are the points it is suggested the Association should exclude from negotiations for the recognition of its mental nursing certificate as qualifying for State registration.

Matters Negotiatory.

(*a*) *Centres for examinations.*—Wherever possible mental hospitals situated near each other might combine for examination purposes, and hold, in turn, a joint examination at one hospital to facilitate inspection by representatives of the General Nursing Councils.

(*b*) It is suggested that the countries be divided into convenient areas for the purpose of appointing chief examiners whose decision shall be final. The medical superintendent of the hospital would ordinarily become the coadjutor.

The areas at present being mapped out as areas for divisional clinical meetings of the Association may be appropriate.

The Association should appoint to each area an honorary examination secretary, to arrange the rota of chief examiners and nurse examiners for the hospitals in the area.

(*c*) A candidate should not be admitted to the final examination without a certificate from some responsible officer declaring that the candidate is proficient in certain fundamental "First Aid" and sick nursing duties which it is within the facilities of all recognized training schools to teach.

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(*d*) To compensate in some degree for there being less sick nursing in the Association's preliminary examination the subject of "Hygiene" might be extended.

In support of this it may be advanced that knowledge of "Hygiene" is more useful in mental nursing than knowledge of the finer technicalities of sick nursing. (One recalls the fact that Florence Nightingale's *Notes on Nursing* is mainly "Hygiene.")

(*e*) The offer that, should the General Nursing Councils accept the Association's Certificate for registration, such admission to the mental nursing register will not entitle the nurse to forego a year's training for entry into the general register unless she first passes the General Nursing Council's oral and practical examination in sick nursing.

This advantage up to now has been largely illusory as few general hospitals will admit nurses to two years' training. In many mental hospitals it is just as convenient to give three years' leave for general training as two, and it is better for the nurse.

(*f*) The offer to accept any reasonable variation in the method and standard of marking that the General Nursing Councils might stipulate. In the event of it being higher than the Association may think necessary, the condition of acceptance of the certificate for registration in that case would be—

> "That the candidate has attained — % of marks in the examinations for the Association's Certificate."

(*g*) All the Association's examinations would be open to inspection by representatives of the General Nursing Councils.

(*h*) The Association would declare its certificate null and void in all cases in which the holder's name had been removed from the State Register.

(*i*) The issue of more precise regulations on "Class Examinations," "Demonstrations," "Class Instructions" and "Ward Instruction."

J. R. Lord.

THE CHAIRMAN OF THE BOARD OF CONTROL (L. G. BROCK, ESQ., C.B.) AND THE NURSING OF MENTAL PATIENTS.

Speaking at the formal opening of the new Nurses' Home at St. Audry's Hospital, Melton (for report, *vide* p. 581), the new Chairman of the Board of Control (England and Wales) referred to the change that was undoubtedly taking place in the attitude of the public towards mental disease. He did not say that people

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generally had adopted the new point of view or had assimilated the new ideas so completely as one would wish, but there was among thoughtful and educated people a very significant change in outlook. It was necessary to introduce the hospital spirit into their institutions, and they had to make the asylum, a place of refuge, into a place of curative and remedial treatment. If they sought to make mental hospitals what they ought to be, and to establish the curative idea, they must have a well-trained and well-housed nursing staff. To be a good nurse demanded devotion, self-sacrifice, rare and precious moral qualities; but something else was also demanded. With the advance of medicine, with more elaborate surgical technique, devotion and care, though no less necessary than they were before, must be supplemented by the trained intelligence. In his opinion there was no form of nursing which made heavier demands than mental nursing, and our mental nurses must have the chance to develop their minds under home-like conditions and reasonable comfort during their off-duty hours.

That was owed to the nurses, but apart from any question of an obligation of honour, it was sound administration. There would always be women who nursed because it was their vocation, but there could never be enough of those women to go round. If in future they were to attract the type of woman whom they wanted for this work—bearing in mind the fact that the mental hospitals were competing against many other professions which were now open to women—they must offer good conditions of employment. One of the first essentials was that the nurses, when off duty, should have quiet and comfortable rooms, and he was pleased with the design of the new Home. He regretted that no definite room had been set apart for study, although there certainly was a "quiet room." It was important that the mental nurse should take the appropriate examinations, not so much for the sake of having passed them, but for the disciplinary value of the preparation, and to give her the same professional standing as that in other branches of nursing.

He did not want it to be assumed that the Board of Control was in any way indifferent to the claims of the male nurse, but there was no need for them to reside within the precincts of the Hospital. He was old-fashioned enough to believe in marriage, and it was better that the male nurse, when old enough, should marry, and make his home in the village or town, not too near the Hospital, so that he might get the rest and relief essential to maintain efficiency by passing into another—and a more normal—atmosphere when off duty.

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Part II.—Reviews.

Fifth Report for 1926 *of the Inspectors of Lunatics, Northern Ireland.* London: H.M. Stationery Office.

The period under review is the year 1926, at the end of which there was a total of 4,665 patients—the males exceeding the females by 295. The total shows an increase of 165 as compared with that of the year 1925.

The admissions to the six district mental hospitals amounted to 1,000—530 males and 470 females—an increase of 233.

The discharged patients numbered 497, of whom 317 had recovered, giving a percentage of recoveries of 31·7 calculated upon the admissions. This shows a decrease of 6·5%.

Two patients escaped and 363 died, the death-rate, estimated upon the daily average number in residence, being 8·7%—an increase of 1%.

The insane accommodated in workhouses and district hospitals were 383 in number, an increase of 23, so that the figures are practically those of 1924, a considerable reduction having occurred in the intervening year.

The financial side of the Report shows a total expenditure on maintenance of £206,184 17*s.* 8*d.* The average cost per head was £42 6*s.* 9*d.*, if one excludes the cost of loan repayments.

Judging from the separate reports upon each institution, it is apparent that upon the whole they are in a satisfactory condition. It is somewhat regrettable to note, however, that in one hospital there are no facilities for preparing nurses for the examinations of the Association or any other authority.

Psychopathology, Its Development and its Place in Medicine. By Bernard Hart, M.D., F.R.C.P. London: Cambridge University Press, 1927. Demy 8vo. Pp. 153. Price 7*s.* 6*d.* net.

In the present flux of psychological knowledge and theory, a book such as this is as welcome as firm ground in a quicksand. Dr. Hart was one of the first physicians in this country to appreciate the significance and value of what one may term the modern approach to the problem of mental disorder. In exploring eagerly the new avenues he brought with him a sound practical experience of psychiatry, and consequently he is pre-eminently entitled to give a considered opinion upon much which is to-day the subject of fruitless discussion. He defines " psychopathology " as an explanation of mental disorder by psychological conceptions, and he gives

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at considerable length the argument that such an explanation is capable of forming a part of scientific knowledge. It is possible that in future times surprise will be shown at the necessity for touching upon such an argument in a work of this kind. At the present day, however, psycho-pathology is sadly in need of the formal statement of its position in the world of science, and in dealing with it Dr. Hart shows his grasp of the essentials of his subject. He makes it perfectly clear that in common with the purely conceptual basis of the physical science of the present day, the modern psycho-pathologist need not be timid of dealing with the conceptions which constitute the material side of his study. As Karl Pearson has pointed out, science is characterized not by the nature of the facts with which it deals, but by the method of attack which consists of the collection of facts, their classification, and then the construction of conceptions which serve to explain them. Dr. Hart maintains that there is nothing in this definition to exclude from the field of science, mental, as opposed to material facts, nor psychological as opposed to other conceptions. As he says, there are many phenomena for which at the present time no other science than psychology can supply a feasible explanation, and others in which psychological conceptions are more helpful and illuminating than physiological. It may some day be possible to reduce the conceptions of psychology to those of physiology, or to the still wider fields of chemistry and physics, but this desirable consummation is brought no nearer by pretending that it has been attained. In the meantime, much help may be derived from psychology provided that the methods of science are rigidly applied.

From this basis Dr. Hart proceeds to review critically the explanatory conceptions of the various schools of modern psycho-pathology. He finds that the conceptions of the Suggestionists and Persuasionists are nullified by their breadth and scope, and he passes to a most interesting examination of the dynamic schools as typified by Freud and Jung.

It is almost impossible to epitomize a closely reasoned argument, and the book must be read carefully in its entirety. He points out the fundamental importance of the fact that a dynamical psychology is free from the limitations of the older descriptive schools in that it may attack the questions of "Why" instead of dealing merely with the "How" in the phenomena with which it deals. He envisages the real difficulty of its acceptance as a branch of science as not lying in the "flimsy abstractions" of mental notions as opposed to such "solid realities" as "electrons or ether waves," but as depending upon the fact that in conceiving the sequence of thought and behaviour in man as a result of the interplay of instinctive forces acting according to precisely definable laws, there is introduced a teleological aspect and the element of "Purpose" which has no correlate or parallel in physics.

No one can take exception to the extremely restrained and yet relentless logic which follows. Most praiseworthy may it be said, there is none of the heat of battle, nor is there that assumption of pontifical superiority which one is accustomed to find in modern

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work for or against the analytical methods. On the contrary, the hypotheses are stated with conspicuous clarity and delineated almost with the love of the faithful. One reads between the lines a note of disappointment and regret. It is enough to state here that the fundamental basis for Dr. Hart's scepticism is his distrust of the strict scientific validity of the psycho-analytic method. As he says, what can be the scientific value of a method which, applied in all good faith, leads to such fundamentally divergent results as those obtained by Freud, Jung and Adler, to say nothing of the lesser lights.

Hart agrees with Dr. T. W. Mitchell that the pessimism which is so obvious in Freud's *Beyond the Pleasure Principle* is the inevitable outcome of a belief in a mechanistic theory of life, and he feels that the criticism which will finally invalidate Freud's work will come, not from a denial of his deductions, but from a doubt as to his fundamental assumption that all the phenomena of life and mind can be interpreted in terms of the physical sciences. He points out that Jung definitely abandons science as it is incapable of dealing adequately with the problems of psychology.

Dr. Hart does not explicitly say what *he* thinks, and it is a pity that he does not do so. No doubt he finds himself in as great a quandary as most of us, yet he leaves us with the feeling that however chaotic the field may appear at present, progress is being made. Good will ultimately come, he says, if we are patient with one another, and continue to work out our own separate lines of thought. This is wise and good counsel at the moment, for argument and difference are essential to the final classification of thought. Though we may share Dr. Hart's regrets at the failure of some of our brightest hopes of the modern psychology, yet by it knowledge must and will accrue, and we shall get a few steps nearer to that understanding of the problems of life for which all intelligent beings seem instinctively to strive.

Incorporated with this volume is an essay on the "Psychology of Rumour," in which Dr. Hart treats of the value of evidence—a matter which has no little bearing on the methods of psycho-analysis. He gives us also a very clear and satisfying description of the various methods of psycho-therapy.

In our opinion this work from the pen of Dr. Hart will constitute one of the most important landmarks in psycho-pathology for many years to come.

THOMAS BEATON.

Mental Handicaps in Art. By THEO. B. HYSLOP, M.D., F.R.S.E. London: Baillière, Tindall & Cox, 1927. F'cap 8vo. Pp. xxxiii + 98. Price 3*s.* 6*d.*

Mental Handicaps in Golf. As above, but pp. xv + 112.

These two little volumes, in size adapted to the pocket, are a further proof of the versatility of their author.

They are knowledgeable little books. Dr. Hyslop is a practical exponent of both art and golf. He has suffered for and delighted

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n both, and therefore, knows them with the intimacy of the "inside stance." His psychology is particularly of the common-sense variety, though he does not forget to gild his pill with a little humour.

The book on art has a foreword by Prof. Arthur Thomson, and that on golf by Dr. Rolf Creary and the great J. H. Taylor.

THOMAS BEATON.

The Utilization of Music in Prisons and Mental Hospitals. By WILLEM VAN DE WALL. New York: Published by the National Bureau for the Advancement of Music. Pp. 67.

Music in Correctional Institutions. The Musician's Contribution to Modern Mental Treatment. Music as a Means of Discipline. A Systematic Music Program for Mental Hospitals. Educational Features of an Institutional Music Program. Six pamphlets by WILLEM VAN DE WALL.

The author is described as Director of the Committee for the Study of Music in Institutions, and is also associated with the Bureau of Mental Health of Pennsylvania. These booklets describe his experiences in organizing musical activities in institutions of varied types, including mental hospitals and mental deficiency institutions, orphanages, rescue homes and prisons.

The influence of music on the mind, and that it can be utilized both to promote happiness and contentment among institution inmates and as a direct therapeutic measure, have always been recognized. Vocal therapy played its part in wartime neurological hospitals, and the great interest taken in it by the late Sir Frederick Mott and his well-known address on "The Influence of Song on Mind and Body" may here be recalled.

In many mental hospitals, however, the steps taken to promote musical activities among the patients themselves tend to be, if not perfunctory, at least unorganized. Although the patient who is already musically inclined is encouraged, there is often no inducement to others to take up music as a new interest, nor is the music provided sufficiently adapted to the needs of individual patients.

Mr. van de Wall sets out to show how these aims can be attained by a qualified musician who has also studied psychology and possesses enthusiasm and organizing capacity. In some institutions visited he was breaking virgin soil, the wards possessing no pianos or gramophones, and a small harmonium having to be carried in for each session. From small beginnings a full musical programme was developed, including the following activities: Ward sessions, with solo and group singing, dancing, recitations and acting; social parties; musical classes, including musical appreciation, community singing, choirs and instrumental teaching; musical and debating clubs; organization of concerts, revues and ballets by patients.

The value of music to individual patients is illustrated by numerous cases. The emotional as well as the occupational

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and social elements in musical therapy are well brought out, and while every type of music has its place in the scheme according to circumstances, it would appear from the cases quoted that it is the singing of folk-songs and old-fashioned popular songs that most often produces something like a mental catharsis.

Mr. van de Wall's writings include much popular propaganda, as well as addresses to musicians, psychiatrists and penologists. He is an enthusiast, and although there is much that is merely rhetorical in the glowing descriptions he gives of his work, this is more than compensated by the many practical hints and illustrations given. A very full bibliography is appended to the first of the above-named booklets.

A. WALK.

Neurologie. Par le Docteur A. TOURNAY. Paris: G. Doin & Cie, 1926. 6 in. by 4¾ in. Pp. 309.

This little book is one of a series entitled "Les Consultations Journalières." The aim is to provide the general practitioner with a summary of modern knowledge on each subject, together with precise instructions for treatment. The book is well-arranged for quick reference, and the salient features of each condition discussed are well brought out. There are, however, a number of notable omissions, including progressive muscular atrophy and its allies, the myopathies, Huntington's chorea and most of the familial diseases. Lesions of individual nerves, including the cranial nerves, are not discussed. Subacute combined degeneration is not recognized as an entity, although a few lines are given to symptomatic combined scleroses.

In the treatment of epilepsy, luminal or gardenal is regarded as the remedy of choice, to be given with a hot drink at least an hour before or an hour and a half after meals. Starting with 10 cgrm. (about 1½ gr.) a day, the dose should be increased up to 30 or even 40 cgrm. Rutonal, the methyl equivalent of gardenal, may be substituted if gardenal fails. In describing hysteria, Babinski's teaching is followed, and treatment of hysterical symptoms by the "rapid method" of suggestion advised.

The book may be found useful by those who wish to become acquainted with French neurological terminology.

A. WALK.

Genie—Irrsinn und Ruhm (*Genius—Insanity and Fame*). Von WILHELM LANGE-EICHBAUM. Verlag von Ernst Reinhardt in München, 1928. Medium 8vo. Pp. 498.

This book purports to examine the value-problem of "genius and insanity" from a new angle. The term "Irrsinn"—insanity—in the title means "so-called insanity," anything psycho-pathological. The human race has an existence probably of only a few hundred thousand years. The greatest members of the species are called "geniuses." Are they the precursors of a future species?

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Is the genius of to-day to be the average man of five hundred thousand years hence? These are questions which the author examines.

The book is composed of six parts. The first part deals with the "Problem of Genius and Insanity." Following Sprenger, the author derives the word *genius*, not from the Latin *gignere*, but from the Arabic *Ginn*, a veil, a cover, hence a shrouding of the mind, also a ghost, a demon. "Genius" becomes a personification of intellectual and ethical values, forces, properties, accompanied by a sort of religious cult. The history of the concept "genius" from antiquity through the middle ages to the present day is given and the various schools discussed. This part ends with the statement of four fundamental problems, and recapitulates six different classes of solutions.

The second part of the book—entitled "Armament"—is devoted to a discussion of the mental equipment which the author considers necessary to approach the subject successfully. The border-sciences and the problem of values are given adequate treatment.

In the third part, "Creator and Work," the concepts of these two terms are discussed first. The author starts with this fundamental proposition: "Nobody is born a genius, be he endowed with ever so much talent or ability, only gradually with mankind does he become a genius." This proposition becomes intelligible later from the author's definition of genius. In the next paragraph, "The Creator and his Modes," the archaic mode, magic thinking and experiencing, the conscious, the unconscious and dream are, in turn, discussed in a manner which does not meet with general acceptance among psychologists. "Creator and Creation" is the heading of the following paragraph. Greater intellectual ability is, in the narrower sense, called talent; there is no talent as such, but always talent *for* something—talent for form, for expression, for presentation, etc. "Genius, from the psychological point of view, does not exist at all. Only talents are the concern of biology and the natural sciences; genius is nothing psycho-biological. Genius means bringer of value—value understood as gift, as production, or value as personality-ideal. Genius is a very special *effect*, value-effect, on a large community."

The title of the fourth part is "The Effect." Here we get the author's statement of his view on genius. Genius is value-experiencing as *relation* between enjoyment-amount and community; genius is a dynamic *function*. What is fame? Fame is a precondition for anybody appearing as a genius. Napoleon and Goethe were not geniuses before they were famous; they were merely highly talented. Lange distinguishes several forms of the Impressive: *majestas*, the superior; *energicum*, the compelling; *mirum*, the distinctive; *tremendum*, the uncanny; *sanctum*, the dominating; *fascinans*, the luring. All these enter into the experience of "the holy," "the sacred." He finds little help from psychological works on religion, but the theological work *Das Heilige*, by Rudolf Otto, gives him much assistance and he follows it in the main.

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The Sacred consists of the "*Numinose*"* augmented by the "morally good."

Part V is concerned with "Bionegative Sources." Here we meet early with the following statement, which one would hardly gather otherwise from the book. "For us it is therefore irrefutably certain that a genius-phenomenon (Genieerscheinung) is quite possible without any disease of the historic creator (of the work)—without 'insanity' in any form whatever." "Gradually the thought arises that disease is, after all, not a rigidly scientific concept and that is why it is so difficult to define it." "Disease is to be thought of rather as dynamic, energetic. Disease is a concept of relation, it is a function: $K = F(P.R.A.)$, where K = disease, P = predisposition, R = stimulus, A = environment. Disease is a specific term, and, bionegative the generic one." The paragraphs on "Normal and Abnormal," "Psychic Disease," "Nature of the Psychosis," "Nature of Psychopathy," "Degeneration and Compensation" are most interesting and instructive. Under the heading, "Forms of the Bionegative," Lange explains his own psychiatric standpoint. In complete contradiction to the statement on Genius and Sanity, quoted above, which appears on p. 213, we find on p. 242 the following statement: "If we take the term 'insanity' scientifically, then the question, 'Are genius and insanity connected?' has to be answered by a truthful, irrefutable, though cruel 'Yes.'" A fundamental idea of the book is not that *the* Genius is abnormal, but that the abnormal becomes famous more easily and thereby more readily accounted a genius. The psychosis by itself avails little or nothing for work, nevertheless it may give an impetus to a healthy talent. Much depends upon whether the psychotic is recognized as such or not by the community. A mixture of healthy talent and psychosis are sometimes more effective than the healthy talent by itself. All this is set out in great detail and convincingly argued. Lange comes to the following conclusion: "The psycho-pathological in man is not so unusual that with it there is suddenly revealed an 'absolute supersensuality,' an absolute world-psyche. . . . No, through the flickering brain of the lunatic no occult-mystic pseudopodium of the absolute world-soul stretches to us humans. A schizophrenic is no watch-tower

* I have searched high and low in lexica and dictionaries for a definition, but in vain. L. evidently takes the term from R. Otto's *Das Heilige*. He says: "Let me attempt to describe the pre-sacred (? pre-Holy—Vor-Heilige) or the 'Numinous' (Numinose) according to R. Otto. Otto is concerned with conceiving the sacred (? Holy) without the moral, the sacred (? Holy) *not equivalent to* good, but *minus* good. . . . The Hebrew *Quadosch* and the Latin *Sacer* correspond approximately to this moment. In the beginnings of the development of this moment all these terms signify doubtless something totally different than the good. Otto tries to find a name which, first, fixes it in its peculiarity, and, secondly, makes it possible to distinguish possible varieties or stages of development to fit. This 'More' is the Numinous. 'Dies Mehr ist das Numinose.' The six different forms of the 'Impressive' which L. distinguishes, *viz.*, majestas, mirum, tremendum, etc., are moments of the Numinous. I have not read Otto's book; he may be clearer than Lange. I am inclined to think that Otto coined the word from the Latin *numen*, numinis, the Divine power, etc."

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into the beyond. Science will ever guard us against this assumption. The present reaction among psychiatrists will also pass."

If a slogan is wanted for the chief contents of this book, and if a healthy form-talent is postulated as generally present, then the following formula will be a useful mnemonic: "Insanity," Fame, Genius. Insanity would mean all that is psychic bionegative; and genius would mean a man mystic-numinously revered by many. "Insanity" brings fame with many and makes a genius with a community. It brings fame sooner, it makes sooner the genius. The idea of rearing geniuses is not only ludicrous, it is emphatically cruel.

The book is written with liveliness and conviction, it is abundantly documented and a gold-mine of information. In the Sixth Part are given nearly eighty "biographies" with copious references and a bibliography numbering nearly 1,700. No one interested in this engaging problem can possibly be without this book. It is doubtless the most complete and thorough-going work on the subject and of enduring value. A. WOHLGEMUTH.

Psychology and the Soldier. By F. C. BARTLETT, M.A. Cambridge University Press, 1927. Crown 8vo. Pp. 223. Price 7*s.* 6*d.* net.

The book as a whole is not intended so much for psychologists as for soldiers. It is, in fact, a soldier's first introduction to psychology. To the psychologist it is a rough map of the field, fairly well proportioned, but too rough to be anything but suggestive. The verboseness of treatment in general terms may take too much for granted both for the military reader, who lacks any psychological background, and for the specialist, who knows enough to see controversial matters skimmed over with easy platitudes.

The author maps out the field in three parts. Part I is concerned firstly with the selection and rejection of recruits, such as testing the special senses, intelligence and special abilities; secondly with training bodily skill, including practice, incentives and fatigue. The survey of this field is quite good, and is full of suggestions for further work. Especially the problems of motivation and incentive require further investigation.

Part II is given as an application of social psychology. Groups are of two kinds: on the one hand those founded on appetite and instinct, secondly those founded on interests, sentiments and ideals. Leaders are of three kinds—"institutional," "dominant," and "persuasive." The "dominant" leader correlates with the primitive group based on appetite and with punishment as the method for enforcing discipline. There is a discussion on discipline, punishment, morale and group games.

Part II is the least convincing, the least helpful, and the least supported by experimental evidence. When Mr. Bartlett, for these problems, goes "outside the laboratory," "to understand the main

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motives underlying conduct in the general everyday life of the soldier," he speaks no longer as a psychologist, but simply as a well-informed soldier. In the sense that the laboratory stands for induction and exact science the psychologist should take laboratory methods with him wherever he goes. He should never in that sense go outside his laboratory.

The third part is on mental disorders of warfare. Personalities are classified into (1) those which have one interest dominant, (2) those which have fluctuating interests, (3) those which have interests harmoniously balanced. There is no reference to other classifications such as those based on endocrines and those based on infantile experiences. The essential difference between conversion hysteria and anxiety neurosis is sympathetically described. The chapter on "Methods of Treatment" advocates synthesizing interests. The "word-association test" is wrongly described as "free association."

In general the book suffers from a narrow, under-informed deductive attitude. There is no adequate mention throughout the book of sex or repression or the lust to destroy. We should have thought that such topics as sadism, homo-sexuality, napoleonism should be mentioned. The use of symbols is an important topic omitted. There is no reference to the anthropological approach. Some reference to the literature of warfare would have been welcome. The problem of world peace is entirely omitted, also the different relations of soldier to civilian in times of peace and of war.

H. D. J. WHITE.

On Stimulus in the Economic Life. By Sir JOSIAH STAMP, *G.B.E.*, Hon.Sc.D., LL.D., F.B.A. The Rede Lecture, 1927. Cambridge University Press, 1927. Crown 8vo. Pp. 68. Price 3*s.* net.

In this very readable little essay the author describes the different meanings of the word "stimulus." He distinguishes between "stimulus" and "incentive." Stimulus is a change in the degree of incentive.

If conditions are made wider or easier, the same unaltered incentive may serve to achieve larger results, and no increase in that incentive is required—no stimulus to increased or intenser action. Accordingly the supply of capital and the rate of interest, while it allows greater or less scope for the same amount of incentive, is not an economic stimulus.

The author sets out the effects of a stimulus according to gains, losses and reactions. He draws into his argument illustrations from the effects of drugs, alcohol, tea, fertilizers, mental stresses, experiments in industrial physiology, and industrial and experimental psychology. The application to economics of these experimental results in other spheres (quantitatively inadequate though many are) leads to a more accurate discrimination of different kinds

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and effects of stimuli as they affect wealth, work and happiness. An essay that correlates so many diverse activities can hardly fail to stimulate the mental life of its readers. H. D. J. WHITE.

Shell-Shock and its Aftermath. By NORMAN FENTON, Ph.D. London: Henry Kimpton, 1926. Foolscap 4to. Pp. 173. Price 12*s.* 6*d.* net.

This book is not a treatise dealing with the mixture of diseases popularly labelled "shell-shock," but is a description of the methods of its treatment in the American Army in France during the progress of the war, and later in the post-war period in the U.S.A. It divides itself naturally into two portions. The first is an account of the Neuropsychiatric Base Hospital 117, with a painstaking statistical inquiry into the various factors which might be associated in the causation of the breakdown of the patient. The second part describes the war neurotic back at home, the efforts of the authorities to deal with these men by placing them in a suitable environment, and a statistical description of a "follow-up" in 1924, with a view to tabulating the results of treatment after a lapse of years.

The American psychiatric organization did not function in its entirety till September, 1918. It was formed on the same lines as those in the British army; the total number of cases investigated was between 2,500 and 3,000, and these are examined from such points of view as service conditions, mental and physical make-up, nationality, social and economic background, etc. The shell-shocked soldier, on his return to the States, appears to have been nursed by many well-meaning organizations, much as happened in this country. In the dissection of the conditions found in the follow-up, the patients were divided into five categories, "normal," "neurotic," "fatigued," "disabled" and "psychotic," and tables are shown to illustrate the relation of these with medico-military, physical and mental, and social considerations. The last chapter contains a discussion of the war neurosis and its aftermath.

It is reckoned that several hundred thousand neurotic subjects were weeded out of the Army and were never allowed to go abroad. On this account, and also because the psychiatric organization was actually functioning for so short a period of the war, the actual material available for detailed statistical examination of such an *olla podrida* was comparatively small. As the shell-shocked were divided into thirteen categories according to their symptoms, some of the groups must have been minute. The author has got over this by treating shell-shock as an entity for statistical purposes. Everyone who is conversant with war neurotics knows that as a group they include every kind of neurosis and psychosis, often complicated by organic nervous diseases, as well as a vast crowd of cases of altered mentality at present quite unclassifiable. Whether it is worth while trying to find a common denominator for all these states is a very debatable point. L. H. WOOTTON.

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Why the Body has a Mind and the Survival of Consciousness after Death. By MORTON PRINCE. *Mind*, January, 1928.

In this article Dr. Morton Prince attempts to formulate a new solution of the psycho-physical problem based on the latest physical and chemical theories of the nature of matter. As might be expected the attempted solution is ingenious, but is nevertheless open to serious criticism.

Dr. Prince advocates a monistic metaphysic based on the ultimate reduction of consciousness and matter to an identical "immateriality." The existence of this "immateriality" in the reality underlying physical phenomena he regards as a logical inference from the electron theory. Its identification with consciousness is a hypothesis for which he claims empirical justification. By regarding both consciousness and what we apperceive as physical events as phenomena of this one reality—however immaterial—he attempts to show that consciousness has causal efficacy in behaviour.

The necessary corollary of this thesis is, of course, the assumption that the separation in reasoning of consciousness from the bodily organism is erroneous, since the two conceptions are only the independent manifestations of one underlying process. From this follows the denial of the persistence of consciousness after bodily dissolution.

There are several serious objections to this theory. In the first place Dr. Prince has implicitly identified consciousness with the soul. This is of very doubtful legitimacy. A fair representation of present-day psychologists find it necessary to assume that consciousness is a function of a persistent—although not necessarily immortal—entity, and numerous empirical facts seem to lend strong support to this view.

Apart from this objection the theory is not in its essentials new. It bears a very strong resemblance to the "two-aspect" doctrine of Spinoza and its developments in the mind of Kant, with the substitution of "immateriality" for the unknown basis of existence. It is true that Dr. Prince does not invoke a Deity as his unknown, but the conception of "immateriality" is quite as difficult and is open to objections of precisely the same kind. Dr. Prince is inclined to make use of the grossly unscientific "inconceivability" argument in criticizing psycho-physical dualism, but this argument can be used with as much justification against his "immateriality" in its double aspect.

But the fact that to our introspective minds this theory necessitates the contemplation of a double aspect, even although each is merely the phenomenon of a single reality, gives it merely the pragmatic value of a parallelist doctrine. Now it is essential for the maintenance of any parallelist theory, of whatever nature, that every psychical process or phenomenon should have its neural correlate. This is a problem which can only be decided by empirical observation, but at present the facts elucidated by researches on the nature of memory and on the psycho-physics of "meaning" tend to make us deny, at least tentatively, that any such strict

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correlation exists. Unless the correlation be absolute, Dr. Prince's theory falls to the ground.

Against the theory of psycho-physical dualism, Dr. Prince once again brings forward the old argument that such a theory would necessitate a breach of the law of the conservation of energy. But it cannot be too strongly emphasized that this "law" was merely a generalization based on observed facts. In the physical sphere it has no universal validity, while of its application in the psychical sphere we know nothing. Even if its truth were absolutely established, it is possible to assume causal efficacy in psycho-physical dualism by invoking the conception, freely used in mechanics, of guidance exercised without work done.

R. S. GIBSON.

Legislation for the Assistance of the Insane and the Drug Addicts (*Legislación sobre asistencia de los alienados y de los toxicomanos*). By Drs. ANGEL GUSTAVO CORNEJO, SEBASTIÁN LORENTE and BALTAZAR CARAVEDO. Lima, 1928. Pp. 88.

The authors of this report were appointed, by the Government of Peru, as a commission, to investigate the present position of mental hygiene in that country, and to suggest improvements. The state of psychiatry in Peru in some respects is not unlike that existing in this country. Scientific knowledge is greatly in advance of public opinion. There is the same popular dread of the "stigma" of certification. There is overcrowding of institutions. There is a difference of opinion as to whether the increase of insanity is apparent or real.

The report begins with a brief but lucid summary of the development of the present theories on the nature of mental disease. The epoch-making character of the Freudian hypothesis is given its due place. The main systems of dealing with sufferers from mental disease (domestic care, "asylum-colony," psychopathic hospital, etc.) are enumerated. The authors, very wisely, consider that each of these diverse plans should have a place in an ideal scheme; and measures are outlined by which all these methods will, in time, be applied in Peru. The various objectives at which legislation of this kind should aim (the protection of society, the care of the patient, the progress of the scientific study of psychiatry) are pointed out. Great stress is laid upon the urgency of early treatment, the desirability of individualization of such treatment, and the need for propaganda and prophylaxis. The separation of acute and chronic cases is insisted upon.

The report advocates the establishment of an official Council of Mental Hygiene, the composition of which would appear to be a happy blend of legal, scientific and administrative elements. The measures suggested for the establishment of public and private institutions, and for the admission and discharge of patients, seem to have been well considered. Criminal cases will be dealt with in special departments of the public mental hospitals. The authors

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mention, but do not discuss, the theory that "insanity" and "crime" are to be regarded as, equally, forms of mental disorder. In either case society calls for the restraint of the anti-social individual.

For what we should, perhaps, describe as "early cases" (*psicópatas no alienados*), it is proposed to provide special wards in the general hospitals, and out-patient departments at mental hospitals. Treatment of such cases would invariably be free. Precise qualifications are indicated as essential in the medical staff to deal with such patients. For mentally abnormal children, a "medico-pedagogical" institution is strongly advocated.

An interesting part of the report is that dealing with the treatment of drug addiction. The use of coca leaves, as a stimulant and sedative, is a very ancient practice in Peru, going back to the age of the Incas. But the authors contend that the present problem of drug addiction depends upon very complex psychological considerations, is largely due to the influence of the war, and can only be adequately dealt with as an international question. Drug addicts are not to be committed to mental hospitals; they are to be treated in special institutions provided by the community. It is suggested that no cured drug addict should be allowed to marry until two years have elapsed from the time of his disintoxication, and then only upon the production of a medical certificate showing that no mental degeneracy exists. The question of alcoholism is considered. The authors are careful to indicate that a number of distinct conditions have been included under this generic name. The futility of dealing with the alcoholic offender by means of short sentences of imprisonment is pointed out. Inebriates are to be treated by prolonged seclusion in special institutions. It is remarked that Great Britain, "a country which has much respect for the liberty of the individual," authorizes such seclusion. It is true that we do possess legal provision for such procedure. Whether we make adequate use of this law is another question.

An extensive bibliography is provided. It is somewhat humiliating to notice that only two books in the English language, and those not of British origin, are included. M. HAMBLIN SMITH.

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Part III.—Epitome of Current Literature.

1. Neurology.

Recent Experiments on the Functions of the Frontal Lobes. (*Psychol. Bull., vol. xxv, No. 1, January,* 1928.) *Jacobson, Carlyle F.*

Since most of the early work lacked quantitative measurement, this review is concerned chiefly with the work of the last ten years. Twenty-five references are given in the bibliography, the largest number of contributions being by Lashley and Franz. Jacobson, referring to the work of the investigators on rats, states that the maze habit during the stage of learning shows no localization and survives destruction of the frontal regions. Once acquired, however, the habit is localized in the frontal regions, and complete destruction of this area abolishes the habit in spite of training to three times the amount necessary for acquisition; on the other hand, after partial destruction the habit is retained. Animals trained in visual discrimination lost the habit by the destruction of pathways in the occipital region, although they had received more than a thousand trials after learning the problem. Lashley concludes that long training does not reduce the habit to subcortical levels. Some other outstanding results are these: Although the frontals function in the acquisition of new habits, learning may still occur in their absence. No marked emotional changes followed the operations in either cats or monkeys. No part of the cortex in front of the caudal end of the corpus callosum or above the level of the floor of the lateral ventricles is concerned with the retention of simple kinesthetic motor habits. The different parts of the frontal area are, to adopt a term from experimental embryology, equipotential in the functioning of the habit. The experiments go far toward establishing the complete functional interchangeability of all parts of the cerebral cortex. The quantitative data point to the conclusion that the efficiency of the memory trace is proportional to the amount of functional tissue, irrespective of its locus, and this in turn suggests that the function of the memory trace must in some way be additive, efficiency increasing as a simple function of the mass irrespective of the neural pattern involved. The theory which makes the conditioned reflex arc the unit of cerebral organization is inadequate, and an additional cerebral mechanism permitting greater plasticity of action and resembling in its action the syncytium of the lower invertebrates must be postulated. Although Lashley's interpretations are based primarily on data for visual habits, they will not be without significance for the frontal areas. A. WOHLGEMUTH.

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The Parasensory Zones [*Die Parasensorischen Zonen*]. (*Psych. Neurol. Wochens., No.* 13, *March* 31, 1928.) *v. Economo, C.*

Immediately adjoining the sensory cortical areas there is a narrow band of cortex characterized by the presence of large pyramidal cells, some of which reach the size of giant-cells. This band has been named the "parasensory zone." It is best seen round the striated visual area, but is also found bounding the auditory cortex and the sensory area in the ascending parietal convolution. The presence of large pyramids probably indicates the origin of efferent fibres, forming either association tracts or else motor paths, possibly for reflex movements of attention. A. WALK.

The Cortico-thalamic Tracts in Certain Small Mammalia [*Les voies cortico-thalamiques chez quelques petits mammifères*]. (*Journ. de Neur. et Psychiat., July*, 1927.) *Hollander, Prof. Dr., and Ghisoland, Mlle. Simone.*

In this paper the authors describe their investigation of the cortico-thalamic tracts of the rat, mouse, guinea-pig and hedgehog. As a result of their studies they hold out the hope that before long the localization of thalamic function may be completed. The article is illustrated by drawings of sections prepared by the Weigert-Pal-Kultschitsky method.

R. S. GIBSON.

The History of the Experimental Study of the Knee-Jerk. (*Amer. Journ. of Psych., January*, 1928.) *Fearing, F.*

The author opens his paper with the reflection that perhaps no other reflex presents so varied a history as does the knee-jerk. He proceeds to develop his thesis along these historical lines, with a chronological list of the early investigators. Reference is made to the galvanometric technique with photographic record of the thread deflections, and to the important problem of inhibition, involving the "drainage" hypothesis of McDougall.

Some 60 references are appended as foot-notes to the article.

WM. MCWILLIAM.

Contribution to the Study of Cerebral Softening [*Contribution à l'étude du ramollissement cérébral*]. (*Journ. de Neur. et Psychiat., November*, 1927.) *Foix, C., and Ley, J.*

The full title of this long paper is "The study of cerebral softening from the point of view of its frequency, its situation, and the anatomical state of the arteries in the necrotic area." In 124 cases of serious cerebral lesion the authors found 100 cases of softening (80·65%) and 24 of hæmorrhage. In 69 cases the softening occurred in the Sylvian area, in 19 in the area supplied by the posterior cerebral artery, and in 12 in that of the anterior cerebral artery.

In 21·5% of cases the affected artery was totally, and in 25% almost

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totally occluded, and in 53·5% there was some toxæmia or reflex nervous influences.

The authors conclude that softening may occur suddenly and is the result of arteritis, acute or chronic, together with one of the following factors: Vascular spasm, transient cardio-arterial insufficiency or toxæmia. The paper closes with some notes on the prevention and treatment of softening and with special details of three cases in which the vessels were only slightly sclerosed.

W. D. CHAMBERS.

The Parathyroids. (*Psychol. Bull., vol. xxv, No.* 1, *January*, 1928.) *Rockwell, F. G.*

A short review of the literature giving a bibliography of 124 papers dating from 1892 to 1927. A. WOHLGEMUTH.

Histo-chemical Study of the Senile Plaques of Redlich-Fischer [*Étude histo-chimique des plaques séniles.*] (*Journ. de Neur. et Psychiat., November*, 1927.) *Divry, P.*

The author begins by some notes on the opinions held by various workers on senile plaques since their first description and proceeds to develop his own opinion that these bodies are local deposits of hyaline amyloid material in the cerebral cortex. The paper is illustrated by eight micro-photographs. W. D. CHAMBERS.

Perimetry [*La périmétrie quantitative*]. (*Journ. de Neur. et Psychiat., December*, 1927.) *Gaudenart, Dr.*

Dr. Gaudenart calls attention to the importance of the use of the perimeter in neurology, and emphasizes the fact that its utility consists not merely in the measuring of the extent of the fields of vision, but also in the determination of variation in the visual acuity at different points in these fields. The instruments of Bjerrum and Clifford Walker are described, and also the technique of the examination and the interpretation of the results.

R. S. GIBSON.

Accidental Effects of Lumbar Puncture, with their Treatment [*Les accidents de la ponction lombaire et leur traitement*]. (*Prat. Méd. Franç., May*, 1927.) *Targowla, R., et Lamache, A.*

The authors state that ill-effects follow lumbar puncture in a fairly high proportion of cases. These ill-effects are grouped under four headings, and illustrated by cases from the authors' own experience with notes on the appropriate treatment of each condition. The groups are: Effects due to hypotension of the cerebro-spinal fluid after puncture; effects due to hypertension shortly after puncture, the cerebro-spinal fluid being secreted in increasing quantities; cases in which symptoms of meningism appear; and cases where the operation is followed by collapse.

R. S. GIBSON.

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The Parasensory Zones [*Die Parasensorischen Zonen*]. (*Psych. Neurol. Wochens., No.* 13, *March* 31, 1928.) *v. Economo, C.*

Immediately adjoining the sensory cortical areas there is a narrow band of cortex characterized by the presence of large pyramidal cells, some of which reach the size of giant-cells. This band has been named the "parasensory zone." It is best seen round the striated visual area, but is also found bounding the auditory cortex and the sensory area in the ascending parietal convolution. The presence of large pyramids probably indicates the origin of efferent fibres, forming either association tracts or else motor paths, possibly for reflex movements of attention. A. WALK.

The Cortico-thalamic Tracts in Certain Small Mammalia [*Les voies cortico-thalamiques chez quelques petits mammifères*]. (*Journ. de Neur. et Psychiat., July*, 1927.) *Hollander, Prof. Dr., and Ghisoland, Mlle. Simone.*

In this paper the authors describe their investigation of the cortico-thalamic tracts of the rat, mouse, guinea-pig and hedgehog. As a result of their studies they hold out the hope that before long the localization of thalamic function may be completed. The article is illustrated by drawings of sections prepared by the Weigert-Pal-Kultschitsky method.

R. S. GIBSON.

The History of the Experimental Study of the Knee-Jerk. (*Amer. Journ. of Psych., January*, 1928.) *Fearing, F.*

The author opens his paper with the reflection that perhaps no other reflex presents so varied a history as does the knee-jerk. He proceeds to develop his thesis along these historical lines, with a chronological list of the early investigators. Reference is made to the galvanometric technique with photographic record of the thread deflections, and to the important problem of inhibition, involving the "drainage" hypothesis of McDougall.

Some 60 references are appended as foot-notes to the article.

WM. MCWILLIAM.

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R. S. GIBSON.

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A Study of Leprosy in Brazil [*Considérations sur la Lèpre au Brésil*]. (*L'Encéph., November*, 1927.) *Esposel, F.*

The author is of the opinion that leprosy must be regarded essentially as a nervous disease. He describes various nerve lesions, and remarks on the apparent fact that the meninges are rarely or never involved.

He concludes with some remarks on treatment; he has found encouraging results from the use of a colloidal preparation of a salt formed by the reaction of copper with the oil of an indigenous Brazilian plant, the "*Capotroche Brasiliensis*," discovered by Paulo Seabra. R. S. GIBSON.

Nervous and Trophic Affections Resulting from the Taking of Veronal [*Troubles nerveux et trophiques d'origine barbiturique*]. (*L'Enceph., June*, 1927.) *Claude, H., Lamache, A., and Daussy, H.*

In this article the authors describe a case of chronic poisoning with veronal. The chief point of interest is the addition of a typical peripheral neuritis to the characteristic symptoms of veronal poisoning. The possibility of associated alcoholism or any of the other ordinary causes was carefully excluded. R. S. GIBSON.

Recent Atypical Forms of Epidemic Encephalitis [*A propos de quelques Formes Atypiques Récentes de l'Encéphalite Epidemique*]. (*L'Encéph., December*, 1927.) *de Massary, J.*

In this article de Massary discusses atypical forms of encephalitis lethargica under three headings, sensory-motor, psychic, and forms affecting the sympathetic system and the endocrine glands. Under the sensory-motor heading he discusses a large variety of manifestations ranging from those in which pain is the prominent symptom to conditions which closely simulate such diseases as amyotrophic sclerosis and the myopathies.

Under psychic forms he describes numerous symptoms, usually associated with definite physical signs, and including confusion, mania, impulsive acts, moral and mental perversion, and a group which he regards as due to suggestion. In this connection he briefly discusses the neural basis of suggestion.

In dealing with the sympathetic system and the endocrine glands de Massary describes various vaso-motor disturbances and mentions symptoms which suggest disorders of secretion of the pituitary, thyroid, and sexual glands.

He considers that recent work on encephalitis compels us to abandon the idea that the midbrain is the sole, or even the main seat of the infective process, which must now be conceived as implicating the whole nervous system, peripheral as well as central.

It is only fair to add that de Massary admits frankly that future research may result in a complete re-classification of these symptom-groups, and that eventually the term epidemic encephalitis may have a much more restricted meaning than that in which he has used it.

R. S. GIBSON.

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Nuclear Ophthalmoplegia with Double Choked Disc in an Acute Case of Encephalitis Lethargica of Hæmorrhagic Type; Subtemporal Decompression [*Ophtalmoplégie nucléaire complète avec double stase papillaire au cours d'un poussée aiguë d'encéphalomyélite léthargique de type hémorrhagique. Décompression sous-temporale*]. (*Journ. de Neur. et Psychiat., July*, 1927.) *van Bogaert, Ludo, and van der Briel, A.*

The authors describe a case of a girl of twenty years of age, who, two years after a typical attack of encephalitis lethargica, from which she made a complete recovery, again became ill with symptoms of the same disease.

On this occasion, however, the signs were widespread. All the cranial nerves from the second to the twelfth were involved, and ultimately an Argyll-Robertson pupil on both sides, with double choked disc, became manifest. There was also complete ophthalmoplegia of the nuclear type.

There were also meningeal symptoms and lumbar puncture obtained hæmorrhagic cerebro-spinal fluid.

A sub-temporal decompression was performed, resulting in complete cure of the ocular signs and symptoms.

The authors consider that the increased intracranial pressure was not solely responsible for the choked disc, which must in part be attributed to interstitial inflammatory changes in the optic tracts.

While admitting the risks of the operation the authors consider it justified by the seriousness of the symptoms and the inadequacy of any other form of treatment. R. S. GIBSON.

Medullary and Spinal Forms of Epidemic Encephalitis [*Sur les formes basses de l'encéphalite épidémique*]. (*Journ. de Neur. et Psychiat., January*, 1928.) *Ley, Rodolphe-Albert, and van Bogaert, Ludo.*

After calling attention to the diverse signs and symptoms of epidemic encephalitis, the authors emphasize the fact that a form whose manifestations are, at first at any rate, confined to the part supplied from the medulla and cord must be recognized.

Among numerous other cases they describe such a one in which there were no cerebral or mid-brain symptoms at first except headache and where flaccid paresis and hyperæsthesia of the upper limbs were the main symptoms. Later the mid-brain centres were involved.

They point out the close resemblance of certain cases of this type to disseminated sclerosis and discuss the differential diagnosis. R. S. GIBSON.

On an Epidemic Encephalomyelitis: Disseminated Neuraxitis with Anxiety [*Sur une néuraxite infectieuse epidémique; la neuraxite disséminée à forme anxieuse*]. (*Prat. Méd. Franç., July*, 1927.) *Targowla, R., and Serin, Mlle.*

In this article the two authors describe a disease which, they state, has not been previously observed and which they studied

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in the winter of 1926–7. The illness is characterized by a prodromal period of from fifteen to twenty days, after which certain symptoms appear with startling suddenness. These comprise, on the physical side, fever, and most of the clinical signs of disseminated sclerosis, such as exaggeration of the deep reflexes, absence of the superficial abdominals, extensor plantar reflexes and nystagmus. Romberg's sign was also present and there was a degree of cerebellar ataxia. On the mental side the condition was characterized by acute anxiety and depression, with suicidal tendencies.

With regard to the ætiology the authors were guarded in view of the small number of cases observed, but they definitely consider it an infective process and point out its resemblance to disseminated sclerosis. In the treatment sedatives with ergot and belladonna were used, and salicylates and arsenic are suggested. The essential feature, however, would appear to be careful nursing, especially in view of the psychic condition. R. S. GIBSON.

Epilepsy and Anaphylactic Shock [*Épilepsie et choc anaphylactique*]. (*L'Encéph., July–August*, 1927.) *Claude, H., and Montessert, M.*

Arguing from the analogy of asthma and urticaria, the theory has been put forward that epilepsy consists of a cerebral anaphylaxis due to the ingestion of some unknown substance. The authors experimented with dogs, and are very careful in applying their results to human beings. On the whole they reach the tentative conclusion that the relationship between anaphylaxis and epilepsy, though frequent in their experiments, has not been conclusively shown to be one of cause and effect.

R. S. GIBSON.

Epileptic Fits with an Aura of Hysterical Type [*Crises d'epilepsie à aura hystériforme ?*]. (*Bull. Soc. Clin. de Méd. Ment., July*, 1927.) *Courbon and Magnand.*

In this case fits, not definitely convulsive, had occurred from childhood, and in adult life the seizures began to be preceded by an aura consisting of the "epigastric sensation" of hysterical patients. The authors consider that the fits were genuine epilepsy and that the hysterical aura was secondary.

W. D. CHAMBERS.

Bravais-Jacksonian Epilepsy (*Sensory Type*) [*Épilepsie Bravais Jacksonienne sensitive*]. (*L'Encéph., July–August*, 1927.) *Janota, O.*

This article is a study of the anatomical basis of this type of Jacksonian epilepsy. As the result of the observation of a number of cases where operative interference was adopted with successful results, the author comes to several conclusions.

In the first place he confirms the observations of Sittig, who divided his cases into two groups, those in which the spread of symptoms corresponded exactly to the cerebral involvement of the

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sensory centres and those in which the spread was discontinuous, but in one of several specific orders.

Secondly, he concludes that the attacks are essentially the result of the irritation of a functional group of centres.

Thirdly, he advances the hypothesis that paræsthesias of temperature are produced by irritation of that part of the parietal lobe comprised by the central convolutions, and the supra-marginal, angular and superior parietal, and that changes in sensibility to electrical stimulation are produced by irritation of almost any part of the cerebral cortex. R. S. GIBSON.

Cerebral Tumours without Choked Disc [*Tumeurs cérébrales sans papille de stase*]. (*Journ. de Neur. et Psychiat., December*, 1927.) *Martin, Paul, and van Bogaert, L.*

The authors emphasize the importance of choked disc in the diagnosis of cerebral tumour, but point out that this symptom is indicative of a stage when intra-cranial pressure is much increased and operative interference is liable to be too late. They, therefore, insist upon the importance of due attention to other signs and symptoms.

To an extract of statistics on the subject they add eight cases of their own of cerebral tumour where there was no choked disc. These cases comprise tumours in different areas of the brain, and of varying periods of growth, and were all confirmed *post-mortem*.

The authors conclude that diagnosis in the absence of choked disc is frequently justifiable, and that its absence should not be regarded as an argument for delay. They consider the state of the central artery of the retina a valuable guide as to the degree of intra-cranial hypertension. R. S. GIBSON.

Malignant Tumours at the Base of the Skull of Naso-Pharyngeal Origin [*Tumeurs malignes de la base du crâne d'origine naso-pharyngienne*]. (*Journ. de Neur. et Psychiat., July*, 1927.) *Coppez, H., and Martin, Paul.*

The authors consider tumours of this type more frequent than statistics show, and analyse briefly those which are on record. The most frequent symptoms calling attention to the disease seem to have been pain over the distribution of the trigeminal nerve, and paralysis of the sixth nerve. It is a remarkable fact that paralysis of the seventh nerve has not been recorded. Sarcomas and epitheliomas are almost equal in number in the published cases.

Two cases under the authors' own care are described in great detail. The symptoms in these cases included trigeminal disturbances, ophthalmoplegia externa, ptosis, auditory disturbances and paralysis of the recurrent laryngeal nerve.

An accurate diagnosis is only possible by the co-operation of the neurologist and the rhinologist. R. S. GIBSON.

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Tumours of the Corpus Callosum. The Connection between Age and Mental Symptoms [*Les tumeurs du corps calleux. Rapports entre l'age et les troubles mentaux*]. (*L'Encéph., July–August*, 1927.) *Moriz, E.*

This is a study of two cases of tumour of the corpus callosum, with a collection of almost one hundred cases drawn from various sources. The author distinguishes three main groups as far as age and mental symptoms are concerned. Firstly, a young adult group in which the symptoms have a strong resembance to those of dementia præcox. Secondly, a middle-aged group, where there is a definite resemblance to general paralysis, and thirdly, an elderly group, where the symptoms approximate to those of senile dementia. The article is illustrated by four excellent photographs.

R. S. GIBSON.

Motor Aphasia [*L'Aphasie Motrice*]. (*L'Encéph., December*, 1927.) *Noica, D.*

In this article the author defines motor aphasia as the loss of memory firstly, for words themselves, and secondly for the act of articulation. He differentiates between aphasia and dysarthria due to bulbar paralysis, and stresses this distinction throughout the article. Agraphia he regards as a necessary corollary of motor aphasia.

The article is based on the study of a number of cases of motor aphasia in process of recovering. After recapitulating the clinical signs and symptoms of the condition the author adds two signs which he considers diagnostic. Firstly, a motor aphasic, although unable at first to pronounce a definite number, say 4, may be enabled to do so sometimes by counting up to it. Secondly, repeated voluntary effort may overcome difficulty in pronouncing a word which has been repeated to him.

The author concludes by differentiating between motor and sensory aphasia.

R. S. GIBSON.

Hemiplegic Synkinesiæ and their Relation to Normal Associated Movements [*Les syncinésies des hémiplégiques, leur rapports noce les associations motrices normales*]. (*L'Encéph., November*, 1927.) *Bard, L.*

Prof. Bard commences by distinguishing sharply between associated and synergic movements, and proceeds to the classification of associated movements. He distinguishes (1) mass movements of paralysed limbs dependent on movement in the corresponding sound limb; (2) movements in a paralysed limb, exactly symmetrical with a voluntary movement in the corresponding sound limb; (3) movements which are involuntary but are functionally associated with certain voluntary movements. It is with the last two groups that he mainly deals. He further divides the last group into ipsilateral and contra-lateral movements.

After briefly reviewing the later theories of the production of

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these associated movements he rejects the possibility of their production by means of bilateral innervation. He considers that such associated movements develop very early in the evolution of the individual, being overlaid in process of time by other movements more recently acquired. After a hemiplegic shock the memory of the more recent movements is abolished, but the power of more primitive movement is retained. These movements are then in reality voluntary in origin. Their symmetry in the contralateral cases he attributes to a tendency to symmetrical movement which is developed at a very early age, as is shown in the case of the invariable closing or opening of both eyes in a young child.

R. S. GIBSON.

The Treatment of Obstinate Trigeminal and Occipital Neuralgia [*Le traitement des neuralgies trigéminales et occipitales rebelles*]. (*Journ. de Neur. et Psychiat., July*, 1927.) *Muskens, L. J. J.* (*Amsterdam.*)

While admitting that the ætiology of trigeminal neuralgia is still in many cases uncertain, the author considers that the abnormal excitations which are responsible for the pain are produced at centres either in the medulla or midbrain. He casts doubt on the observation of Horsley and Schwab on the Gasserian ganglion.

He points out that in many cases excision of part of the affected branch or the injection of alcohol produces only temporary relief, due to the fact that regeneration of the nerve takes place rapidly, especially when the break in continuity is produced far from the centre. This regeneration he states is also much more rapid when the nerve is divided or alcoholized than when it is crushed.

The operation which he advises, and of which he gives his successful experience, consists in crushing the two lower branches of the trigeminal and subsequently sectioning them distal to the point of crushing. The operation is described in some detail, and five illustrative cases are given.

Similar treatment is suggested for occipital neuralgia, and two cases quoted.

R. S. GIBSON.

Early Pain in Disseminated Sclerosis [*Les algies initiales dans la sclérose en Plaques*]. (*L'Encéph., September-October*, 1927.) *Koulkoff, A. E.*

Attention is called to the fact that sensory disturbance of the nature of pains and anæsthesias are of frequent occurrence in disseminated sclerosis, and are frequently early symptoms. Four cases are described in all of which sensory disturbance was marked, and in three of which it was the initial symptom.

The author considers that the general lack of recognition of such facts may in some cases lead to errors in diagnosis.

He considers that the sensory symptoms are probably of root origin.

R. S. GIBSON.

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Surgical Intervention in Syringomyelia and Spinal Cord Tumours. [*À propos des interventions chirurgicales pour tumeurs intra-médullaires et pour syringomyélie*]. (*L'Encéph., December*, 1927.) *Christopher, L.*

The author commences by a description from MM. Sicard, Haginan and Mayer of treatment of a case of syringomyelia by (1) laminectomy, (2) injection of lipiodol into the cystic cavity for radiological localization, and (3) drainage of the cyst. He follows with a case of his own which presented typical signs and symptoms of syringomyelia, which he treated by laminectomy and drainage of the cyst. Although this was at first apparently successful as far as alleviation of symptoms was concerned, the patient eventually died, and autopsy revealed a glioma of the cord with central cystic degeneration.

M. Christopher emphasizes the difficulty of differential diagnosis in such a case, and also the value of operative interference as far as the relief of symptoms such as pain is concerned.

R. S. GIBSON.

The Diagnosis of Infantile Paralysis [*Diagnostic de la Paralysie Infantile*]. (*Gaz. des Hôp., No.* 104, *December* 28, 1927.) *Babonneix, M. L.*

This paper contains a warning as to the difficulties of and necessity for accurate diagnosis of acute anterior poliomyelitis. In the acute stage it may be confused with meningitis of various types, osteo-arthritic diseases, meningeal hæmorrhage, encephalitis, typhoid fever, etc., and in the later stages with myopathies, encephalopathies, polyneuritis, etc. The salient points for the differential diagnosis are indicated in each case. W. D. CHAMBERS.

Symptomatology of Myasthenia Gravis [*Zur Symptomatologie der Myasthenia Pseudoparalytica*]. (*Psych.-Neurol. Wochens., No.* 12, *March* 24, 1928.) *Holterdorf, A.*

An account of a case with typical symptoms of myasthenia, but in whom the muscles failed to give the so-called "myasthenic reaction." The reaction is not absolutely specific, since it may be absent in myasthenia, and sometimes present in other conditions, such as polyneuritis and cerebellar tumours. The patient described also showed a persistent enlarged thymus, and X-ray treatment of this organ was followed by considerable improvement in the myasthenic condition. A. WALK.

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2. Psychology and Psycho-Pathology.

An Elementary Symbolism for Logic. (*Mind, January*, 1928.) *Rimel, L. J.*

In this article Mr. Rimel advances a symbolism for the solution of the problems of formal logic. He aims at providing a system which will meet all the essential facts of the case without requiring

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the rigorous algebraic treatment of Whitehead and Rimel. All the important aspects of formal logic are touched upon, from the hypothetical proposition and the problem of immediate inference to the complications of the syllogism. The whole is illustrated by examples of problems taken from such diverse sources as Whitehead and Rimel, Lewis Carrol, and Lewis, to all of which the symbolic formulæ are successfully applied. R. S. GIBSON.

On Substitution as a Cause of Errors in Thinking. (*Amer. Journ. of Psych., January*, 1928.) *Wilcocks, R. W.*

The problem treated is that of errors occurring in task-directed processes of thought. Experimentally obtained introspective data are advanced to prove that the validity of the law of substitution must be assumed in order to explain errors of thinking arising in a certain type of task-directed cognitive process, in which solutions occur which do not agree with the anticipatory conditions.

WM. MCWILLIAM.

An Interference Theory of Colour Vision. (*Amer. Journ. of Psych., January*, 1928). *Forbes, W. T. M.*

The author deals with an interference theory of colour vision which assumes that only one light-sensitive substance is concerned with photopic vision, a visual violet substance similar to the familiar visual purple of scotopic vision.

Three kinds of cones, however, are postulated: (1) White, with no special structures, in which the visual pigment is presumably diffuse; (2) yellow, with a reflecting surface at its further end and an insulating film at a distance back from it; and (3) red, similar to the yellow in structure.

The subject of the paper is skilfully elaborated with five diagrams and references in foot-notes. WM. MCWILLIAM.

Attention and Clearness in the Perception of Figure and Ground. (*Amer. Journ. of Psych., January*, 1928.) *Wever, E. G.*

The author deals with his subject under the following headings:

(1) Perception and attention.
(2) Figure-ground experience and clearness.
(3) The nature of clearness—the sensory-cognitive distinction.
(4) The theory of the two levels.

Many references are given and the article is concluded by a brief summary. WM. MCWILLIAM.

Experimental Studies on Children and Persons of Unsound Mind by the Method of Conditioned Reflexes [*Études expérimentales sur les enfants et les aliénés selon la méthode des réflexes conditionnels*]. (*Ann. Méd. Psych., July*, 1927.) *Ivanoff-Smolensky, A. G.*

The author following closely the work and methods of Pavloff seeks to elucidate the physiology of human conduct. He concludes that the cerebral hemispheres constitute a reflexo-creative organ,

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the work of which can be studied exactly, and that cerebral reactions, so-called voluntary actions, follow in every detail the fundamental laws of higher nervous activity. W. D. CHAMBERS.

Some Effects of Inanition on Animal Behaviour. (*Psychol. Bull., vol. xxv, No.* 1, *January*, 1928.) *Stone, C. P., and Lindley, S.*

The term "inanition," as here used, means the lack of essential food during intervals considerably longer than those usual between feeding periods. The term "starvation" indicates an extreme stage of inanition leading finally to great emaciation or death. Total or quantitative inanition or partial or qualitative inanition are distinguished. The review goes up to 1926 and gives eighteen references. A. WOHLGEMUTH.

Habit-Formation or Higher Mental Processes in Animals. (*Psychol. Bull., vol. xxv, No.* 1, *January*, 1928.) *Tolman, E. C.*

This interesting review covers the literature of the year 1926, although some earlier papers are referred to. From "experiments which measure with further precision the effect of relatively mechanical factors," the following results are summarized:

(*a*) Further evidence that sub-mammals (fish and water-beetles) are capable of acquiring both discrimination and food position habits. (*b*) Relatively unreliable mazes can be used to measure group differences provided the groups are large enough. Properly constructed difficult mazes will give high reliabilities even with rats. (*c*) Further conflicting evidence on the relative advantages of distributed and of concentrated practice. There is some suggestion that maze habits and sensory discrimination habits differ in this matter. Evidence that longer learning time induced by more distributed practice makes for better retention. (*d*) The female sex-cycle seems to have no effect upon maze learning. The cerebellum is not involved in the maze habit. As regards the cerebrum "No part of the cerebral cortex is better adapted than any other (save for the closeness of its anatomical connections to the given incoming and outgoing paths) for the formation of any particular habit. . . . This must mean that in a problem situation the effects of stimulation irradiate to all parts of the cortex. As the habit is established there comes into being a definite structural modification having topographical position and capable of destruction by brain injury. The learning process is independent of locus, whereas the mnemonic process or engram has a definite localization."

Next are discussed the "experiments and investigations which lead to new non-mechanical envisagements of learning." In general all the authorities seem to agree in envisaging insightful problem-solving as something fundamentally different from trial and error problem-solving. This seems to the reviewer an important issue, and the remaining section of the paper is devoted to a discussion of it. Forty-four references are given.

A. WOHLGEMUTH.

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Studies on the Eidetic Type and on Eidetic Imagery. (*Psychol. Bull., vol. xxv, No. 2, February*, 1928). *Klüver, Heinrich.*

This is a very full and carefully prepared review of the work done on " Eidetic Images," and the discussion on " Eidetic Types " as propounded by Jaensch and his co-workers at Marburg and elsewhere from its beginning. It includes also the literature relevant to it on memory, synæsthesia, after-images, hallucinations, pseudo-hallucinations, etc. It refrains from criticism. There is a bibliography of 196 numbers. Anyone working in this field of investigation cannot neglect this thorough review.

A. WOHLGEMUTH.

Memory Performances of an Imbecile of the Eidetic Type [*Gedächtnisleistungen eines schwachsiningen Eidetikers*]. (*Psych.-Neurol. Wochens., No.* 10, *March* 10, 1928.) *Jaensch, E. R., and Mehmel, H.*

The subject was able to name at once the day of the week corresponding to any given date in the years 1920–27. For other years he was able to do this if any one date of that year with the day of the week was given him. In the case of a leap year, it was necessary to state that the given year was a leap year, since the subject was unable to divide by 4 ; his arithmetical powers, in fact, were limited to simple addition and subtraction. The explanation of his performances with the calendar lay in his possessing a strong visual memory of the " eidetic " type. His memory images occurred as hallucinations with full sensory vividness, so that he was able to visualize and complete the calendar for the year within a few seconds. On the Binet-Simon scale he ranked as a low-grade imbecile.

A. WALK.

On the Necessity of Including the Study of Functional Disorders in the Medical Curriculum [*Über die Notwendigkeit, das systematische Studium der funktionellen Krankheiten in die medizinische Studienordnung aufzunehmen*]. (*Intern.Zeitschr. f. Indiv. Psych., January*, 1928.) *Morton Prince.*

The purpose of this paper is sufficiently indicated in the title.

A. WOHLGEMUTH.

The Views of Morton Prince on Modern Psycho-pathology [*Morton Prince's Anschanungen über die moderne Psychopathologie*]. (*Intern. Zeitschr. f. Indiv. Psych., January*, 1928.) *Taylor, W. S.*

This is a very readable and interesting exposition and advocacy of Morton Prince's views on psycho-pathology and psycho-therapy. It discusses the conception of the organism in general, association, integration, conflict, dissociation, the " subconscious," the genesis of functional disturbances, the foundations of psycho-therapy and its special methods. The differences between Morton Prince's teaching and the psycho-analytic schools are pointed out and discussed.

A. WOHLGEMUTH.

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Infectious Diseases and Individual Psychology [*Infektionskrankheiten und Individualpsychologie*]. (*Intern. Zeitschr. f. Indiv. Psych., January*, 1928.) *Goldberger, P.*

This is an attempt to show the influence of psychic factors on the contraction of infectious disease (gonorrhœa), but the case histories do not seem to warrant the author's interpretation.

A. WOHLGEMUTH.

Contribution to the Psychology of the Horse [*Beitrag zur Psychologie des Pferdes*]. (*Intern. Zeitschr. f. Indiv. Psych., January*, 1928.) *Stein, L.*

This is a short essay on the psychology of the horse with an undeniable anthropomorphic leaning. A. WOHLGEMUTH.

The Golden Complex. (*Intern. Zeitschr. f. Indiv. Psych., January*, 1928.) *Dodd, L. W.*

An essay in English in "Literary Psychology" to show that "Cain and Byron were the victims (or, if you prefer it, the fortunate possessors) of a deeply-rooted inferiority complex."

A. WOHLGEMUTH.

Marlowe as a Forerunner of Individual Psychology [*Marlowe als Vorläufer der Individualpsychologie*]. (*Intern. Zeitschr. f. Indiv. Psych., January*, 1928.) *Brachfeld, O.*

The author attempts to show by quotations from Marlowe's tragedy "Edward the Second," that homosexual attraction existed between the King and his favourite Gaveston.

A. WOHLGEMUTH.

Forms of Salutation in the Child [*Die Grussformen des Kindes*]. (*Intern. Zeitschr. f. Indiv. Psych., January*, 1928.) *Grünbaum-Sachs, H.*

An attack on the teaching of forms of salutation to children, conceived from the standpoint of Adler's *Individual Psychology*.

A. WOHLGEMUTH.

Widow-burning and Widow-neuroses [*Witwenverbrennung und Witwenneurose*]. (*Intern. Zeitschr. f. Indiv. Psych., January*, 1928.) *Adler, A.*

An attempt to show that suttee is due to a neurosis of widowhood.

A. WOHLGEMUTH.

Individual Psychology and Psychosis. (*Amer. Journ. Psychiat., January*, 1928.) *Seif, L.*

Dr. Seif in his paper stresses the psychogenic aspect of the biogenic psychoses, urging a better understanding of the psychology of the individual patient. He defines psychosis as "a method of

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living, the mode of expression of a feverish ambition and unrealizable expectations on the part of a tremendously discouraged individual, a pessimistic response to the demands of the real situation, in greater or lesser degree a lack of affirmation of life." To him prevention is the best treatment, and the central problem is the preparation of the educator. WM. MCWILLIAM.

On Recognition-Therapy [*Über Erkenntnistherapie*]. (*Psych.-Neurol. Wochens., No.* 14, *April* 7, 1928.) *Lungwitz, H.*

The author has elaborated a new system or "scientific discipline" to which he has given the name "Psychobiology," and which includes a theory of the neuroses and a method of treatment. Man is to be conceived as a reflex organism, and neuroses result from an irregular development of reflexes. Reflex mechanisms may remain undeveloped or infantile, but may become elaborated or "hypertrophied" while remaining at the infantile level. Reflexes are generative or trophic; hence neuroses can be classified as "genoses" or "trophoses," corresponding roughly to hysteria or neurasthenia respectively. Infantile reflexes are associated with infantile modes of thought. As an example a case of pharyngeal neurosis is described, in which the swallowing of solid food was impossible and minute precautions were taken by the patient to ensure the absence of the smallest particle in his food. This is traced to an infantilism of the swallowing reflex, which had failed to become adapted to dealing with solids. The method of treatment ("recognition" or "acknowledgment" therapy) consists in explaining these facts to the patient, and instructing him in the mode of origin of his illness. When the patient is convinced of the truth of the explanations offered him, his outlook ceases to be infantile, with incidental cure of his symptoms. Apart from the theoretical basis of this method, it does not appear to differ greatly from the method of treatment by evaluation of symptoms re-education used in this country. A. WALK.

A Study of Dreams, Perceptions and Hallucinations in Relation to the Personality: An Essay in Three-dimensional Psychopathology. [*Étude sur le rêve, la perception et l'hallucination dans leurs rapports avec la personalité. Essai de psychopathlogie à trois dimensions*]. (*Journ. de Neur. et Psychiat., January*, 1928.) *de Greef, E.*

In this article the author draws a parallel between dreams and the various forms of hallucination, and advances many of his own dreams. The general conclusion he comes to is that in order to be made comprehensible dreams, and also hallucinations, must be put in their proper orientation with regard to both past and future events. The introduction of this time-factor into the study of dreams is the justification of the term "three-dimensional psychopathology." R. S. GIBSON.

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3. Clinical Psychiatry.

The Common Mental Diseases of Damascus [*Les troubles mentaux les plus généralement observés a Damas.*] (*L'Hyg. Ment., November*, 1927.) *Jude, and Hakkim Anad.*

The authors give a brief history of the treatment of mental disease in Syria for the past six hundred years. At present schizophrenia, manic depressive insanity, epilepsy and alcoholism, with hysterical conditions attributed to the recent disorganized state of the country form the bulk of hospital admissions. There are also a fair number of post-encephalitic cases with mental derangement. No cases of dementia paralytica, obsessions with acts of violence, or sexual perversions have been observed.

Religious obsessions are fairly common, but the patients are rarely admitted to hospital.

Mental affections of a serious nature seem to be exceedingly rare among females, though hysteria is occasionally observed. The authors ascribe this largely to their mode of life, which is dealt with in some detail. R. S. GIBSON.

The Mental State of the Natives of North Africa and their Psychopathic Reactions [*L'État mental des indigènes de l'Afrique du Nord et leurs Réactions Psychopathiques*]. (*L'Hyg. Ment., November*, 1927.) *Fribourg-Blanc, A.*

The author regards the dominating characteristic of the Arab of North Africa as great childishness. He is easily amused, affectionate, brave and impulsive. He lives only for to-day and above all he is extremly suggestible. This last attribute dominates the picture in the great majority of cases of mental illness.

Fourteen cases are cited as typical and are fully reported. Seven of these may be regarded as hysterical, five are classed as psychoneuroses with depression as the chief symptom, and only two as definite psychoses requiring hospital treatment.

The author believes that the extreme suggestibility of the Arab, is reinforced by religious influences. R. S. GIBSON.

Mental Ills Appearing in Barnstaple, Dukes and Nantucket Counties, Massachusetts, 1850–1917. (*Amer. Journ. Psychiat., January*, 1928.) *Briggs, L. V.*

This article is an interesting one from an historical point of view. Dr. Briggs gives detailed tables of the incidence of consumption in six towns along the Atlantic seaboard of the counties dealt with, of the causes of death in them, of the occupations of inhabitants committed to mental hospitals, and so on to the number of 15 tables, the last of which deals with types of mental diseases.

Conclusions are briefly summarized. WM. MCWILLIAM.

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The Pathology of Hallucinations [*De la pathologie des hallucinations*]. (*Prat. Méd. Franç., July*, 1927.) *Lévy-Darras.*

The author states that hallucinations must be eventually regarded merely as symptoms occurring in mental disease, and pointing, just as physical symptoms do, to an underlying cause. He adduces evidence to show that all hallucination can be traced to physical causes, and ultimately to excitation of the cortical memory centres by abnormally interpreted stimuli from the various afferent sensory paths. R. S. GIBSON.

The Mental State of Hallucinated Patients and its Two Factors [*L'état mental des hallucinés et ses deux facteurs*]. (*L'Encéph., June* 1927.) *Bouyer, H.*

In the production of hallucinations in the insane the author considers that there are two factors chiefly involved, one psychical, the other purely physiological. The psychical factor he terms the "disposition to hallucinate," the physiological the "hallucinatory state."

The disposition to hallucinate has as its basis the tendency of the mind to become fixed to the contemplation of certain exclusive or privileged ideas, and this tendency may be brought about by faulty education or by mental conflict in adult life. It may also be congenital. The hallucinatory state on the other hand is a physiological phenomenon closely resembling sleep in many ways.

In the hallucinated insane the two conditions combine to produce the symptoms.

The author elaborates this theory and works out the reciprocal connection between the two factors. R. S. GIBSON.

The Sense of Psychic Interaction in Chronic Delusional States [*Le sens de l'interpsychologie dans les états delirants chroniques*]. (*La Prat. Méd. Franç., July*, 1927.) *Logre, J.*

In chronic delusional cases one of the most important facts to realize is that the normal orientation of the patient's mind towards the minds of others is disturbed. The *rapport* which accompanies this orientation he terms the "sens de l'interpsychologie," or sense of psychic interaction. He describes how the deluded patient conceives his mind to be penetrated in various degrees by those of others. He deals explicitly with delusional patients of various types. R. S. GIBSON.

The "Persecuted" Insane and Supervised Liberty [*Les persécutés en liberté surveillée*]. (*L'Hyg. Ment., July-August*, 1927.) *Capgras, J.*

The difficulty in dealing with patients suffering from delusions of persecution lies first of all in the fact that they do not realize that they in any way require medical attention, although they may

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imagine they need police protection. The author states that he has observed, in a large number of cases, that such delusions are preceded by a period of actual bodily ill health, and if at this time the condition is recognized the medical care of the patient is greatly facilitated.

Indiscriminate confinement tends to aggravate the mental condition, and, while recognizing certain risks involved, Dr. Capgras is of opinion that advantages are offered by greater liberty than is at present usually permitted.

In estimating the probable risks both to the patient himself and to others, due attention must be paid to the intellectual, moral and ethical sentiments which underlie the psychosis.

The author suggests that in many cases it is possible to allow such patients partial freedom of the kind possible in a work colony.

R. S. GIBSON.

Communicated Insanity? [*Délire à deux?*]. (*Journ. de Neur. et Psychiat., November*, 1927.) *Massaut, J.*

This paper relates how an exalted delusional patient, a doctor of law, converted another male patient (of his own age, but inferior intellectual development and social position) to his own delusional ideas.

W. D. CHAMBERS.

Clinical and Anatomical Findings in Three Cases of Acute Delirium [*Notes anatomo-cliniques sur trois cas de délire aigu*]. (*L'Encéph., September-October*, 1927.) *Claude, H., and Cuel, J.*

This uncommon condition is characterized by mania of sudden onset with hallucinations, fever, progressive asthenia and emaciation, terminating usually in death. The authors describe in detail three cases, all females, in each of which a *post-mortem* examination was obtained.

Outside the central nervous system no characteristic changes were found. Beyond congestion, there was no naked-eye abnormality in the brain. Histological examination showed changes in the direction of chromatolysis and karyolysis with lipoidal degeneration of ganglion cells.

In view of the histological findings the authors consider that although pre-existing mental instability and emotional trauma may predispose to the condition, the essential ætiological factor is toxic or infective.

R. S. GIBSON.

The Cure and the Sequelæ of Acute Delirium [*Guérison et séquelles du délire aigu*]. (*Ann. Méd. Psych., January*, 1928.) *Damaye H., and Warschawski, S.*

The authors state that delirium tremens and acute delirium occur only in individuals of neuropathic heredity, and that the latter is, as a rule, only an episode in the course of some subacute or chronic psychosis, such as anxious melancholia or schizophrenia.

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They assert that both types of delirium are curable by anti-infection treatment, electrargol intravenously, sera and fixation abscess. The ultimate result depends on the nature of the mental disorder underlying the acute delirium. Not infrequently this is of a chronic type, in whlch complete recovery is not to be expected.

J. S. ANNANDALE.

An Atypical Form of Amaurotic Family Idiocy of the Vogt-Spielmeyer Type [*Sur une Forme Atypique de l'Idiotic Amaurotique, Type Vogt-Speilmeyer*]. (*L'Encéph., September-October*, 1927.) *Russetzki, J.*

In this article there is a record of four cases of amaurotic idiocy among brothers, varying in age from five to fourteen years. The cases resemble the Vogt-Spielmeyer group, but differ from it in several particulars. (1) The mental changes were less marked than usual. (2) Except for the occurrence in all the cases of epileptiform seizures, motor disturbances was not marked. (3) Vaso-motor disturbance, such as dermography, was pronounced. (4) External ophthalmoplegia and nystagmus in at least two cases. (5) There was disturbance of function of the pineal gland, as evidenced by precocious sexual development. (6) There was evidence of osteoporosis in the long bones in at least two cases.

R. S. GIBSON.

Convulsions in Infancy and Their Relationship, if any, to a Subsequent Epilepsy. (*Amer. Journ. Psychiat., January*, 1928.) *Shanahan, W. T.*

The author in this thesis covers much old ground, and reviews a wide range of authorities on the subject, bringing prominently before the reader the wide difference of opinion as to the significance of convulsions occurring during infancy and early childhood. He concludes with a series of "*nota bene*" on the difficulties of reliable prognosis in these cases.

WM. MCWILLIAM.

Mental Reduction in the Course of Cerebral Tumours [*Le déficit mental au cours des tumeurs cérébrales*]. (*Journ. de Neur. et Psychiat., November*, 1927.) *Vermeylen, G.*

The author points out that the meaning and application of the word "dementia" is changing with the advance of knowledge. Patients apparently demented in the classical sense may show remarkable degrees of recovery. Normal intellectual activity appears to consist of the sum of three activities, intuitive thought, discursive thought and automatic thought. In cases of cerebral tumour it is this last type of intellectual activity which is most markedly impaired. The author's conclusions are supported by some psychographic charts produced by a method of his own described elsewhere.

W. D. CHAMBERS.

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Cerebral Commotion due to a Railway Accident. Disorders of Memory and of Character; Grievances and Claims [*Commotion cérébrale par accident de chemin de fer. Troubles de la mémoire et du caractère, revendication*]. (*Bull. Soc. Clin. de Méd. Ment., July*, 1927.) *Trénel and Lelong.*

The patient described in this paper was a railway guard, æt. 49, who sustained two moderately severe accidents to his head, followed by mental symptoms which led to his being certified as insane. In addition to confusion, amnesia and outbursts of violent anger he suffered from delusions of persecution by his neighbours and his former employers. These delusions made it difficult to sustain the claims, at first justifiable, he made on the railway company for compensation. W. D. CHAMBERS.

Anatomico-clinical Views on Dementia Præcox [*Considérations anatomo-cliniques sue la démence précoce*]. (*Ann. Méd. Psych., January*, 1928.) *Marchand, M. L.*

From the point of view of the clinical pathologist, Marchand distinguishes two forms of dementia præcox. The first type arises in persons with a well-defined hereditary tendency, in whom mental peculiarities are often to be noted long before the onset of the actual insanity. The author believes this form to be due to a failure of complete development of the nerve-cells. In the second or toxi-infectious form the causal agent varies with the individual case. In the first or constitutional variety a dissociation of the mental activities occurs rather than an actual destruction, while in the other form recurrent attacks of confusion may occur from which the patient may appear to recover. In the early stages of the latter, changes are to be observed in the cerebro-spinal fluid, and also neurological signs which have some resemblance to those of lethargic encephalitis. J. S. ANNANDALE.

The Motor Syndrome of the Katatonic Type of Dementia Præcox [*Le syndrome moteur de la démence précoce catatonique*]. (*L'Encéph., December*, 1927.) *Claude, H., Baruk, H., Thévenard, A.*

While emphasizing the fact that typical katatonia occurs in many other conditions than dementia præcox, the authors consider that the katatonic type is sufficiently definite to demand special treatment in any classification of schizophrenic conditions.

To commence with they briefly survey the mental and physical theories of the genesis of katatonia, noticing especially the close resemblance of the symptoms to those resulting from extra pyramidal lesions, such as those of encephalitis lethargica and paralysis agitans.

Then follows a full description of the condition of the reflexes and of the nervous system in general in cases of katatonic dementia, with a description of the effects on function of injections of hyoscine. Plates are given showing the variation of electrical conductivity in

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the muscles of the affected part, and comparing them with the results obtained in a study of the Parkinsonian syndrome.

Two cases of katatonia are cited in which a transitory extensor plantar reflex was demonstrated.

The authors conclude by separating the motor phenomena from those of Parkinsonism, and by pointing out their close resemblance to those of hysteria. While, on the whole, pronouncing against the theory which ascribes the origin of the motor symptoms to lesions in the extra-pyramidal system, they suggest that the physical basis of these symptoms may perhaps be found in lesions of the paths joining the basal ganglia to the cerebral cortex.

R. S. GIBSON.

General Paralysis and Schizophrenia [*Paralysie générale et schizophrénie*]. (*Journ. de Neur. et Psychiat., December*, 1927.) *Claude, H.*

The author calls attention to the prevalent belief that schizophrenia and general paralysis of the insane are to some extent mutually exclusive. This he avers to be a mistake. He recalls numerous published cases, and adds several of his own in which definite symptoms of general paralysis co-existed with schizophrenia of the katatonic and paranoid types. Certain of these cases were ascribed to treatment by inoculation with malaria, and the suggestion is put forward that in these the pathological condition was possibly a meningo-encephalitis of syphilitic origin, which provided a physical basis for the development of schizophrenic symptoms.

R. S. GIBSON.

The Astheno-Hypersthenic Form of General Paralysis [*La forme astheno-hypersthénique de la paralysie générale*]. (*Gaz. des Hôp., No.* 94, *November* 23, 1927.) *Benon, R.*

The author considers that nearly all, if not all, cases of general paralysis exhibit alternation between asthenic and depressive states on one hand, and hypersthenic manic states on the other, and that practically every case shows at least one such alternation. He points out that this may lead to errors in estimating the progress of the disease and to unfounded claims as to the merits of the therapeutic measures applied. The paper is supported by the histories of three cases in point. W. D. CHAMBERS.

General Paralysis Developing Two Years after Syphilitic Infection [*Paralysie générale apparue deux ans après l'infection syphilitique*]. (*Bull. Soc. Clin. de Méd. Ment., April*, 1927.) *Marchand, L., and Picard, J.*

This patient, a woman, æt. 21, was admitted showing well-marked mental and physical signs of general paralysis. She had had energetic anti-syphilitic treatment. At the time of writing the disease was making very rapid progress. W. D. CHAMBERS.

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General Paralysis Confirmed by Histological Examination in an Old Man of Seventy-five Years [*Paralysie générale confirmée par l'examen histologique chez un vieillard de 75 ans*]. (*Bull. Soc. Clin. de Méd. Ment., November-December*, 1927.) *Marie, A., Chatagnon, P., and Picard, J.*

A patient, æt. 75, who had contracted syphilis at the age of 20, showed signs of tabo-paresis. The picture was that of dementia, euphoria, eroticism and delusions of grandeur and of great wealth. The blood and spinal fluid were strongly positive, and there were also neurological signs of paresis. The brain showed the usual lesions of general paralysis, while there was a complete absence of cerebral arterio-sclerosis or of the appearances usually found in senile dementia. J. S. ANNANDALE.

General-Paralytic Syndrome due to Diffuse Cortical Sclerosis [*Syndrome paralytique par sclérose cérébrale corticale diffuse*]. *Bull. Soc. Clin. de Méd. Ment., July*, 1927.) *Pactet and Marchand, L.*

The mental symptoms in this case indicated general paralysis but the cerebro-spinal fluid was negative to all tests and the condition was not progressive. The blood Wassermann reaction was positive and there was advanced pulmonary phthisis. The autopsy, however, showed considerable and widespread sclerotic changes in the cerebral cortex, without any implication of the meninges.
W. D. CHAMBERS.

Paralytic Syndrome and Epilepsy from Cerebral Sclerosis and Chronic Meningo-encephalitis [*Syndrome paralytique et épilepsie par sclérose cérébrale et méningo-encéphalite chronique*]. (*Bull. Soc. Clin. de Méd. Ment., November-December*, 1927.) *Pactet and Marchand, L.*

A patient, subject to epilepsy from the age of 16, presented, at the age of 26, both mental and physical symptoms and signs of general paralysis, which persisted until his death from uræmia at 56 years. The blood and cerebro-spinal fluid were, however, constantly negative. *Post-mortem* there were evidences of a chronic meningo-encephalitis of unknown origin. There were also many microscopic sclerotic foci situated in the cerebral and cerebellar cortex. J. S. ANNANDALE.

Disseminated Sclerosis and Chronic Hallucinatory Psychosis [*Sclérose en plaques et psychose hallucinatoire chronique*]. (*Bull. Soc. Clin. de Méd. Ment., July*, 1927.) *Guiraud, M. P.*

The patient in this case, a woman, æt. 41, was admitted to an asylum suffering from a hallucinatory psychosis, and a year later developed neurological signs indicating disseminated sclerosis. This disease was confirmed at autopsy. The possible relationship of the psychotic and the neurological states are discussed, but in

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view of the great rarity of disseminated sclerosis in asylums it was concluded that their occurrence together in this case was merely a coincidence. W. D. CHAMBERS.

Epidemic Encephalitis [*Encéphalite epidemique*]. (*Journ. de Neur. et Psychiat., January*, 1928.) *Leroy, A.*

In this article Dr. Leroy deals with a series of cases of encephalitis lethargica in which, after the typical organic symptoms had passed away, definite mental symptoms appeared. These varied from hysterical manifestations, affecting various parts of the body, to profound depression or else to exaltation with violence.

He points out that certain symptoms apparently organic in origin occasionally yield to treatment of which the efficacy can only be due to suggestion.

He emphasizes the importance of isolation in such cases.

R. S. GIBSON.

Parkinsonian Hemisyndrome following Lethargic Encephalitis apparently commencing with Symptoms of Moral Insanity [*Hémisyndrome Parkinsonien consécutif à une encéphalite léthargique, paraissant s'être manifestée au début par des symptômes de folie morale*]. (*Bull. Soc. Clin. de Méd. Ment., November-December*, 1927.) *Marchand, L., and Courtois, A.*

The case is that of a girl, æt. 16, presenting a Parkinsonian syndrome affecting only the right side. The illness commenced at the age of 7 years, with symptoms of disorder of the moral sense, lying, theft, deliberate false accusations, etc., on account of which she had to be sent to a home for defectives. Three years later neurological signs appeared, which finally developed into a definite pallidal hemisyndrome. The interest of the case lies into the long interval between the initial moral symptoms and the appearance of the organic signs. J. S. ANNANDALE.

Epidemic Encephalitis with Epilepsy and Myoclonus [*Encéphalite épidémique avec épilepsie et myoclonies*]. (*Ann. Méd. Psych., January*, 1928.) *Guiraud, P., and Thomas, A.*

Consequent on an attack of epidemic encephalitis, a boy, æt. 11, developed the disorders of character and disposition so often associated with this disease. Three months later he began to suffer from epileptic seizures, and at the present time—eight years after the commencement of his illness—he has as many as forty-eight fits in a month. These are of short duration, and the convulsive movements are not marked. He has also a constant myoclonus of the muscles of the arms, head and trunk. The association of epileptic seizures and myoclonus in the case resembles the syndrome of Unverricht, while on the other hand the slightness and frequency of the attacks are reminiscent of pyknolepsy.

J. S. ANNANDALE.

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The Conversion of Asylums into Psychiatric Hospitals [*De la transformation des asiles d'aliénés en hopitaux psychiatriques*]. (*L'Hyg. Ment., June*, 1927.) *Toulouse, Ed., and Dupoy, Roger.*

The authors produce a powerful case for the reform of the asylum system. They point out the fact that in spite of the humanitarian efforts of the nineteenth century, the treatment of the mentally afflicted still largely consists in "shutting up." They refer to the social stigma involved in this process, and they insist that this will not be removed by the mere substitution of the term "mental hospital" for "asylum," which will still remain the "madhouse" unless a thorough reform is carried out.

They instance large groups of patients for whom confinement in a strict sense is quite unnecessary, mentioning particularly the troubles of childhood and old age, and the psycho-neuroses.

Suggestions are put forward for the reform of the system, including an extensive consultative department, and work colonies for the feeble-minded.

R. S. GIBSON.

Constitutional Factors and their Value in the Diagnosis of Disorders of Behaviour [*Les facteurs constitutionales leur valeur rivélatrice dans l'analyse des troubles du comportement*]. (*L'Encéph., June*, 1927.) *Wertheimer, F. I.*

This article deals with the correlation between mental phenomena and physical development. The author follows Kretschmer's classification, the psychic type being associated with manic-depressive conditions and the astheno-athletic with schizophrenia. The article is illustrated by a consideration of two cases.

R. S. GIBSON.

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4. Pathology.

Spirochætosis of the Central Nervous System in General Paralysis. (*Amer. Journ. Psychiat., January*, 1928.) *Dieterle, R. R.*

Dr. Dieterle's work is based on that of Jahnel, whose technical methods have given interest to the problems of the occurrence, distribution and localization of the *Spirochæta pallida*, within the central nervous system. Jahnel described three types of distribution the disseminated, in which the organisms lie scattered through the cortical substance in a fairly even manner; "bee-swarms," in which dense circumscribed colonies lie in the cortex; and, thirdly, a vascular distribution in which thick masses of the organisms are collected about the cortical blood-vessels. Jahnel's methods involved total-block impregnation, but the author uses a new technical modification for single sections.

Dr. Dieterle is in general agreement with Jahnel as to the three types of occurrence, and finds that "the metastasis of spirochætes undoubtedly occurs lymphogenously in a local sense, and hæmatogenously in a wider sense." "The avenue of cerebral invasion has

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not been revealed by the present case. The choroid plexuses were negative for spirochætes."

The article is illustrated by a series of excellently reproduced photo-micrographs. WM. MCWILLIAM.

"*Mastix-Lumbotest*" *as a Diagnostic Reagent for the Cerebro-spinal Fluid for Use in Psychiatric Institutions* [*Mastix-Lumbotest als Liquordiagnostikum für Psychiatische Heilanstalen*]. (*Psych.-Neurol. Wochens., No. 7, February* 18, 1928.) *Emanuel, G., and Rosenfeld, H.*

The colloidal mastic test was originally introduced by Emanuel in 1915, but the difficulty of making up the reagent has hitherto prevented its widespread use as a clinical test. The authors now describe the use of a standard preparation obtainable under the above trade-name from their laboratory. The reagent is supplied in two solutions: (1) A standard alcoholic solution of mastic, and (2) a diluting fluid, suitably buffered, of constant composition. The method of carrying out the reaction is very similar to that used in the familiar colloidal gold reaction and readings are recorded in the same way, the figures denoting degrees of turbidity and precipitation. The results are in general agreement with those obtained by other tests; it is said to be more sensitive than the colloidal gold reaction in the differential diagnosis between general paralysis and other types of cerebral syphilis. A. WALK.

A Simple Method of Preparing Micro-photographs [*Eine einfache Methode zur Anfertigung von Mikrophotogrammen*]. *Psych.-Neurol. Wochens., No.* 10, *March* 10, 1928.) *Meyer, F.*

The method consists in using the microscope as a projection in a dark room and replacing the screen by a photographic plate. The microscope is placed horizontally, the mirror removed and a powerful opal glass electric lamp clamped in its place. The whole is enclosed in a black cardboard box. The plate enclosed in a cassette, is hung on the wall at a suitable distance. Focusing is done by means of the coarse and fine adjustments of the microscope itself, the eyepiece of the microscope being covered with a red glass cap. No general rule can be laid down as to exposure, which must be determined separately in each case. A. WALK.

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5. Treatment.

Preliminary Results in the Treatment of Schizophrenia by Malarial Inoculation [*Premiers Résultats du Traitement Paludéen dans la Schizophrénie*]. (*L'Encéph., November*, 1927.) *Wizel, A., and Markuszewicz, R.*

After commenting on the origin of the treatment of psychotic conditions by the artificial production of fever, the authors proceed to a description of 27 cases of schizophrenic conditions treated by

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malarial infection. Of these cases 19 were chronic and included hebephrenic, katatonic and paranoid types, 4 were intermittent and of some standing, and 4 were acute.

In the chronic cases no satisfactory results were obtained. In the intermittent cases remissions occurred lasting over several months. In the acute cases, which are described in full, very successful results are reported. The ætiology of schizophrenia with special reference to the influence of syphilis—which the authors deny—is discussed in relation to the *rationale* of the treatment, which is, however, still obscure. R. S. GIBSON.

Experiments with Saprovitan [*Versuche mit Saprovitan*]. (*Psych.-Neurol. Wochens., No.* 12, *March* 24, 1928.) *Blume, C.*

The author treated a number of cases of general paralysis, cerebral syphilis and schizophrenia by intravenous injections of saprovitan, a preparation containing living bacteria, which produces a rapid rise of temperature with rigors. The method appears to be free from danger. Of 7 paralytics thus treated 1 (an advanced case in poor condition) died, 1 was greatly improved and was discharged, 1 unchanged and 4 considerably improved. The schizophrenics treated were all women suffering from acute psychoses of sudden onset, mostly of the katatonic type. Of 24 cases, 6 were completely cured, 8 were improved and 10 unchanged. Although spontaneous cures are well-known in these conditions, improvement only occurs in about 20% of all cases, whereas the treated cases showed improvement in 58%. The author concludes that saprovitan should be given a further trial with a view to determining more definitely the indications for its use. A. WALK.

On the Use of Hypnotics [*Über Schlafmitteltherapie*]. (*Psych.-Neurol. Wochens., No.* 13, *March* 31, 1928.) *Stroomann, G.*

In spite of the extensive use of psychotherapeutic methods in inducing sleep, hypnotics still play an important part in the treatment of neuroses and psychoses. Our knowledge of the action of hypnotics must, however, be revised in the light of recent advances in physiology and pharmacology. New conceptions on the physiology of sleep have resulted from the study of epidemic encephalitis. Sleep may be defined as inhibition of cortical activities, with release of the sleep-regulating mechanism in the brain-stem, which includes a sleep-centre and a waking-centre. Electrical stimulation of the brain-stem in the cat may produce sleep, although no exact localization of the sleep-exciting centre can be determined. It is possible that chloretone has a specific action on the brain-stem apparatus, whereas paraldehyde, morphine and bromides act on the cortex. On the biochemical side there is, during sleep, a marked diminution of the blood-calcium, which is displaced into the nervous tissues and appears in increased amount in the cerebro-spinal fluid. A useful method, elaborated by Gayer, for comparing the action of hypnotics is described ; this consists in noting the effect of the drug

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on the turning-reflex of the frog, which depends on the deeper brain-centres. Some recent views on tolerance are also discussed.
A. WALK.

Petimal in the Treatment of Epilepsy and the Convulsive Syndrome generally [*Petimal gegen Epilepsie und den sonstigen Krampf komplex*]. (*Psych.-Neurol. Wochens.*, *No.* 8, *February* 25, 1928.) *Nussbaum, R.*

A mixture consisting of extract of adonis vernalis with caffeine sodium benzoate, sodium phenylbarbiturate and strontium bromide, known as petimal is recommended, alone or in combination with veronal or luminal, in the treatment of convulsive states. Experimentally it is found to prevent convulsions induced by cocaine, camphor or picrotoxin, but not those of strychnine; its action is therefore cerebral. It is also used in the treatment of various states of increased nervous irritability, including anxiety states, visceral neuroses, etc. A. WALK.

Report of Committee on Installations and Advice. (*Occup. Therap. and Rehabil., February*, 1928.)

This report of a committee presumably appointed by the American Occupational Therapy Association deals with crafts of loom-weaving, frame-weaving and card-weaving. The various types of patients to which each are suitable are described and the physical processes involved in each are detailed. It is remarked that "weaving is especially valuable for the treatment of mental patients because it can be made to give a good deal of varied physical exercise, arouses interest, and can be graded to meet the mental needs of all types of patients." WM. MCWILLIAM.

Occupational Therapy in a Tuberculosis Sanatorium and its Relation to After-Care, etc. (*Occup. Therap. and Rehabil., February*, 1928.) *Hedding, B. E.*

The author does not intend his article to interest the psychiatrist in particular, but in view of the liability of the psychotic to tuberculosis the interest does arise. Dr. Hedding describes briefly the value and place of occupational treatment, though he regards it as a process of "hardening" the patient, particularly with a view to his resuming his employment. The occupational measures are out-door ones, and statistics are given of its results.
WM. MCWILLIAM.

1. *Occupation Therapy in Institutions Dealing with Patients of the Educated and Well-to-do Classes* [*Beschäftigungstherapie in Anstalten bei Nerven und Geisteskranken der gebildeten und besser situierten Kreise*]. *Kahlbaum.*
2. *Some Experiences of Modern Occupation Therapy* [*Erfahrungen mit der moderner Beschäftigungstherapie*]. *Schreiber.* (*Both in Psych.-Neurol. Wochens., No.* 9, *March* 3, 1928.)

Dr. Kahlbaum describes what he considers to be the most favourable conditions for the development of occupation therapy among

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private patients. The institution should be close to a town, but possess extensive grounds; it should be of comparatively large size, and should take patients suffering from all forms of mental disorder and mental deficiency. Full equipment and a large staff are required, including, in addition to full-time nurses and occupation officers, a number of visiting assistants and teachers for special subjects. Among occupations involving physical exertion, non-productive occupations including hobbies, sports and physical exercises, appeal to patients more readily than does productive work. Work on the land is usually refused by those who have had no previous inclination for it, but book-binding, printing and other indoor occupations have been introduced. Occupations involving mental work are much more successful. Numerous educational courses have been carried on. Apart from courses in general culture, vocational training is given to enable patients who require it to take up some fresh career after their discharge from hospital.

In Dr. Schreiber's institution resources for occupational therapy on a large scale are lacking; the ordinary institutional occupations in the kitchens, workrooms, gardens and farm have, however, been given closer attention, and an attempt made to adapt these occupations to individual needs. The author discusses the importance of making timely changes in each patient's work and of gradual promotion to more responsible tasks. He lays stress on co-operation between the physician and the occupational departments; the distinction between staff and patients must be minimized and the patient made to feel that all are members of the same community. Other points discussed are the effects of mixing patients of different social standing in the same occupations-group, the question of rewards to patients, and the employment of patients in the homes of the institution officers. A. WALK.

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6. Sociology and Mental Hygiene.

Psychiatric Considerations on "Souteneurs" [*Psychiatrisches zur Zuhälterfrage*]. (*Psych.-Neurol. Wochens.*, *No.* 8, *February* 25, 1928.) *Raecke, Prof.*

The author points out that the heavy penalties enacted against the "souteneur" or bully should not be applied indiscriminately. The popular conception of a class of dangerous criminals who exercise a brutal tyranny over prostitutes is mistaken. Several psychological types are found in this class, including morons, neurotics and schizophrenics. In many of these the association with prostitutes is more or less accidental and part of their general degradation. Their weakness of will and incapacity for effort prevents them from breaking with their vicious and criminal associates. Fear of being informed against is also a factor in keeping this type of "souteneur" in the power of the prostitutes who need his protection. In these cases it is the man who places himself in

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a position of dependence. The more resolute, despotic type of bully is less common; prostitutes are often markedly attached to these men and they are rarely denounced. Nine illustrative cases are described. A. WALK.

Morbid Swindling [*À propos de l'escroquerie morbide*]. (*Journ. de Neur. et Psychiat., November*, 1927.) *Nyssen, R.*

This paper is an account of the case of a degenerate mythomaniac whose numerous lies and swindles were apparently morbid, but in whom there was not, at any time, any disorder of consciousness. The difficulties in these cases when they fall into the hands of the law are discussed. W. D. CHAMBERS.

Attempted Murder by a Feeble-minded Individual under the Influence of Suggestion by a Cinematograph Film [*Tentative Homicide par un Débile sous l'influence d'une suggestion obsédante d'Origine Cinematographique*]. (*L Hyg. Ment., December*, 1927.) *Roubinovitch, J., and Schiff, P.*

Although the cinema has been held responsible for a large number of crimes, in very few cases has this accusation been substantiated. It is therefore interesting to discover a crime which does appear to belong to this type. The criminal was a feeble-minded boy who tried to commit murder by strangling a woman, and subsequently attempting to stab her, thus recapitulating a scene which, he stated, he had witnessed on the screen.

Unfortunately it was not possible to identify the film which seemed responsible for the act, but in view of the facts in the history of the case, the authors of the article see no reason to doubt the method of origin of the crime. R. S. GIBSON.

The Mental Hygiene of Children in the United States [*L'hygiène mentale de l'enfance aux Etats-Unis*]. (*L'Hyg. Ment., September–October*, 1927.) *Boyer, H.*

This article is partly based on the experience of the children's court in Chicago, which has lately celebrated its twenty-fifth anniversary. The author emphasizes the great difficulty in classifying psychological types among children, especially among delinquents. He describes the inadequacy of the conception of orthodox intellectualistic psychology and of behaviourism in understanding and dealing with individual children, and attributes the great vogue of the Freudian theories in America to the fact that they necessarily imply individual investigation. He urges the need of discipline in infancy and childhood, the necessity for the eradication of such emotions as jealousy, and the discouragement of day dreaming. He quotes L. B. Holman: "One must remember that to-morrow exists and can only be made agreeable by overcoming to-day's difficulties." R. S. GIBSON.

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Psychiatry and the Criminal Child [*La psychiatrie de l'enfance criminelle*]. (*L'Hyg. Ment., September–October*, 1927.) *Roubinovitch, J.*

While admitting that innate qualities play an important part in the determination of criminal tendencies, the author places most importance on environmental conditions.

The French law of July, 1912, removed children from the jurisdiction of the criminal courts and placed juvenile delinquents under the care of a special tribunal. M. Roubinovitch stresses the value of this procedure, and gives examples to show how, in dealing with such cases, the court investigates the whole of the influences to which the child is subjected, and how the method of dealing with the child is derived as a result of these investigations. He makes a strong plea for making medical examination of these cases compulsory, instead of, as at present, optional. R. S. GIBSON.

The Care of the Alcoholic and New Legal Projects for Dealing with the Insane [*L'assistance des alcooliques et le nouveau projet de lois sur les aliénés*]. (*L'Hyg. Ment., June*, 1927.) *Mignol, Roger.*

This is a strong plea for the adequate treatment of alcoholism. Contrary to our preconceived ideas there appears to be a real alcohol problem in France, and during the past five years there has been a remarkable increase in the number of alcoholics. Institutional treatment of such cases is singularly inadequate and the author strongly urges that power be given to enforce early and prolonged treatment.

As a matter of interest he gives the text of a recent law on the subject introduced at Geneva. R. S. GIBSON.

Divorce on Account of Insanity [*Le divorce pour cause d'aliénation mentale*]. (*Ann. Méd. Psych., July*, 1927.) *Eissen, J., and Provent, P.*

This paper (by a medical man and a lawyer) is a discussion of the various aspects of a proposition to make divorce possible in the case of a legal insanity occuring in one of the partners of a marriage. In existing French law divorce is not provided for on this ground. (It was temporarily legal under the Revolution in 1792.) Divorces on account of mental disease would be contrary to the French legal conception of the duties of marriage, as well as to the implication of divorce itself. The immense practical difficulties in fairly and equitably carrying out any such law are set out and discussed very fully from various points of view. W. D. CHAMBERS.

Forensic Psychiatry and Psychiatric Annexes to Prisons [*L'expertise psychiatrique et les annexes psychiatriques des prisons*]. (*L'Hyg. Ment., December*, 1927.) *Claude, H.*

Professor Claude deplores the lack of facilities for the study of mental cases among prisoners in France, and surveys recent developments in Belgium, where in four prisons psychiatric wards have been

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established for the observation and treatment of prisoners both before and after sentence.

Between 1921 and 1926 no fewer than 1,449 cases were admitted to these wards, the number showing an increase each year. Of these 30% were feeble-minded and 20% either epileptics or hystero-epileptic.

He strongly urges the extension of this policy on humanitarian grounds. R. S. GIBSON.

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7. Mental Hospital Reports.

BRITISH ISLES.

Down County Mental Hospital.—The number of patients at the end of the year, 1926, under review, shows at 743, an increase of 16 —14 females and 2 males—as compared with the preceding year.

The admissions numbered 67 men and 72 women—an increase of 29.

Of the total number, 71, who were discharged, 58 had recovered, 12 were relieved and 1 was removed in an unimproved state.

The recovery-rate, as estimated on the admissions, comes to 47·8% for men, 36·1% for women, or a total of 41·7% as compared with 43·6%, 63·3% and 53·6% respectively, being the figures for the previous year.

The Medical Superintendent ascribes the reduction of the recovery-rate to the larger number of women admitted suffering from chronic mental disease.

The deaths were 52 in number, which figure gives a percentage of 7·1, estimated upon the daily average number resident. This is an increase of 2%.

The erection of new bedroom accommodation for part of the nursing staff will release for the use of the patients portions of the hospital which have been temporarily used by nurses, and will obviate any prospects of congestion through the continued increase in the number of patients.

The Prime Minister of Northern Ireland, accompanied by the Minister for Home Affairs, visited the hospital in February, 1927, and recorded his appreciation of the Committee's efforts towards the betterment of the insane. Medical and moral treatment has been continued with success as hitherto.

Turning to the financial side of the Report one finds the total average cost, including the repayment of loans, to be £55 5*s.* 5*d.* The net average cost came to £40 17*s.* 1*d.*, a reduction of £3 15*s.* 2*d.* This was due almost entirely to the increased receipts from paying patients. The farm showed a profit of £1,211 18*s.* 5*d.*, which must be considered satisfactory in view of the general state of agriculture. The area of land under cultivation and in grass was 176 acres.

Inverness District Asylum.—The report is for the year ending May 15, 1927, and on that day there were 723 patients on the register of the hospital as compared with 710 at the corresponding

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date in the previous year; 148 cases were admitted during the year, and the total number under treatment was 865 (M., 439; F., 426). Of the types of mental disorder amongst the admissions melancholia and mania show the largest figures, and closely following these, various forms of dementia; only one case of general paralysis was admitted.

Of the 61 cases returned under the heading of melancholia, 13 were cases of dementia præcox, and of the 38 cases of mania, 9 were cases of the same disease.

"It has been estimated that about one-eighth of all admissions to British Mental Hospitals are cases of dementia præcox, and from the figures for recent years in this asylum it is apparent that, among the male patients, the proportion is not less.

"The disease is not one causing early death. The patients lead protected lives, and live long, as a rule, and they tend to accumulate, thus forming one of the chief reasons for the periodical necessity of enlarging mental hospitals or building new ones. If study of the causes and treatment of this malady could bring about its prevention or cure, the practical benefit to society would be direct and valuable."

As regards ætiology, hereditary predisposition was found in nearly 50% of the cases, and in 53 of the 148 admissions there had been at least one previous attack. Excess in alcohol was an assigned cause in only 4 cases. The recovery-rate for the year was 26% and the death-rate 9·5%.

Dr. Mackenzie concludes his report with an interesting analysis of the recommendations of the Royal Commission on Lunacy:

"They foreshadow many improvements and developments that are bound to come, more promptly perhaps in the more central and wealthier parts of the country than in our more northern and impoverished areas, but desirable everywhere, if those unhappy members of the public who have the misfortune to be sufferers from mental disease and infirmity are to benefit by the advance of human knowledge and skill in combination with that spirit of brotherhood and of compassion for the sick and helpless which, though it may not be computed in pounds, shillings and pence, is, nevertheless an essential part of the treasure and heritage of altruistic feeling without which no society, certainly no Christian society, could continue and progress."

A considerable number of nurses, male and female, during the year passed either the examinations of the Royal Medico-Psychological Association, or the examinations of the General Nursing Council for Scotland. Of 182 who became qualified between the years 1896 and 1927, 85% of the female and 58% of male nurses left the service.

Kesteven Mental Hospital.—The report is for the year 1926, and shows that at the beginning of the year the patients numbered 477 and at the end of the year 484. The admissions were 70 (M., 34; F., 36), a decrease of 17 men and 3 women compared with the previous year. On admission the prognosis was good in 25 cases, doubtful in 14 and in the remaining 31 bad. The recovery-rate for the year was 39·4%, and in the analysis of the recovered cases it is seen that most of the recoveries occurred in cases of simple mania and melancholia, but one is recorded in a case of primary dementia and two of systematized delusional insanity. The death-rate for the year was 5·9%

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Burmah.

The report is for the year 1926, and deals with the working of (1) the mental hospital of St. John's Road, Rangoon, (2) the new mental hospital at Tadagale, Rangoon, and (3) the temporary mental hospital at Minbu. These are the hospitals for mental disease that serve a country with an area roughly about four times the size of England and Wales, and a population, mainly agricultural, of approximately 13,000,000. The total accommodation at the three hospitals was 930—that for males being 658 and females 272. The average population during the year at Rangoon and Minbu was 846 males and 135 females.

During the year there were 234 admissions to the Rangoon Mental Hospital (to which most of the new cases go), and the largest number of these were of the coolie and cultivator class. The recovery-rate for the year was 12·4%, calculated on the admissions.

Of the etiological factors amongst the admissions, insane heredity was only established in a comparatively few cases; in a considerable proportion of cases toxic agents were considered to be either a predisposing or exciting cause, the chief being alcohol and cannabis indica, with opium and cocaine taking a secondary place. Syphilis and tuberculosis were considered ætiological factors of importance in many cases.

One case of cholera was correctly diagnosed on admission, and the infection did not spread, all the patients in the hospital having been inoculated with anti-cholera vaccine shortly before.

Federated Malay States.

The Federated Malay States proper, namely, Perak, Selangor, Negri Sembilan and Pahang, occupy an area of about 27,000 square miles, or rather less than half the size of England and Wales, and have a mixed population of Eurasians, Europeans and Americans, Indians, Chinese and Malays (in the proportions respectively of 1, 2, 100, 150, 160). It is from this population that the Central Mental Hospital, Tanjong Rambutan, mainly receives its patients, though it also receives from the Crown Colony of Singapore and the Protected States of Kedah and Kelantan. The total number of patients remaining in the hospital on December 31, 1926, was 2,021 (M., 1,550; F., 471); the percentage of recoveries for the year was 32·1 and that of deaths 6·6. The total number of States patients admitted during the year was 644 (M., 489; F., 155), the largest number ever admitted; Dr. Samuels attributes this partly to increase of the general population, and partly to the more enlightened knowledge of the people.

Primary dementia easily heads the list of forms of mental disease on admission, and this chiefly amongst the Chinese section of the population:

"Seeing that the classification of mental disease is not yet all that one would like to see it, we cannot place too much reliance on the primary dementia figure, as the personal equation is, as things are at present, very prone to have an undue

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effect, and what one man diagnoses as primary dementia might by another be classed as something else.

"Still, there is no doubt there is an alarming increase in primary dementia, which should be taken as a warning that education might with advantage be taken a little more slowly. I have too many of the derelicts left in the track of the storm of modern education."

General paralysis is responsible for a large number of cases, also mainly Chinese, and in this connection it is to be noted that very active propaganda work is being undertaken throughout the States to combat venereal disease, which it is hoped will eventually lead to a diminution of this figure.

"All nationalities, I think I might say, suffer equally from syphilis, and years ago I put up a possible suggestion that the fact that the Chinese participated so much more than the other nationalities in speculative business—making greater demands on their brains—might account for the susceptibility of the Chinese to G.P.I. Now we must find a cause for the remarkable increase in G.P.I. amongst the Chinese.

"What is the new factor?

"I should say without hesitation alcohol. Syphilis has always been present, or rather, was present, long before the Central Mental Hospital was thought of. Yet, up to 1912, the existence of G.P.I. was denied. Its presence was proved in 1915 on cases collected in 1912, 1913, and 1914, though the cases were few, but they grew in numbers steadily, and, since the war, have gone up by leaps and bounds year after year.

"Sixteen years ago the Chinese had their opium and did not need alcohol. Since then opium has been, in many cases, put out of the reach of the Chinese, and discouraged in the case of those who could afford it. The result has been a steady increase in the consumption of alcohol amongst the Chinese. Along with this increase in the consumption of alcohol we had a steady increase in G.P.I. It is known that alcohol is, in the presence of syphilis, a contributary cause of G.P.I., and I am convinced that the cause of the increase of G.P.I. in the Federated Malay States is the increased consumption of alcohol by the Chinese."

And this in spite of the fact recorded in the report of the Principal Medical Officer of the Federated Malay States (Dr. Dowden) that the campaign against the use of opium, and the wards opened for the cure of the opium habit, have been a complete failure.

As regards the treatment of general paralysis, Dr. Samuels reports:

"Experiments were carried out with the treatment of general paralysis of the insane by malaria, but the results were anything but hopeful.

"Why the malaria treatment should be apparently useless in this country it is hard to say, unless it is that most of the inhabitants of the country having had a considerable amount of the malaria, an antibody has been formed, which interferes with the action on the spirochætes which takes place in a malaria-free individual."

Union of South Africa.

Report of the Commissioner for Mental Hygiene 1924 *to* 1925–6.

There were admitted during the year 1925 (first admissions) to the mental hospitals and institutions for the feeble-minded 1,663 persons (in the proportion of 804 Europeans to 859 natives, coloured and Asiatics) and this has been a steadily increasing figure from 1918, partly owing to increase of population, and partly owing to the opening of institutions for the feeble-minded.

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The position of mental disease in the Union is shown in the following table.

Annual Increase in Numbers of Patients in Mental Hospitals and Institutions for Feeble-minded from 1916 *to December* 31, 1925.

Year.	European.	Native.	Asiatic.	Other.	All races.
1916	2,355	1,786	146	638	4,925
1917	2,553	1,929	146	695	5,323
1918	2,663	1,914	149	695	5,421
1919	2,778	2,120	153	720	5,771
1920	2,970	2,251	159	743	6,123
1921	3,114	2,364	163	793	6,573
1922	3,406	2,513	169	834	6,922
1923	3,725	2,674	156	913	7,468
1924	4,027	2,822	119	946	7,914
1925	4,251	2,998	128	983	8,360

It is interesting to note that the number of Asiatics in the hospitals is less than in former years. This is largely due to the repatriation of Indians—many of whom have been sent back to India from the mental hospitals to friends or to institutions there.

The change in the descriptive title of the sub-department of the Department of the Interior to that of "Mental Hygiene" is noteworthy as indicating a new and better outlook on the subject, and a realization that the most important work of the department is preventive and external to the institutions. This new attitude is also shown by the appointment of psychologists not only to this department, but to that of Education, and to the Juvenile Courts, Reformatories and Rescue Homes. The remarks of the Commissioner of Mental Hygiene (Dr. Dunston) as to the part that the Medical Schools are taking in the mental hygiene campaign are worth quoting:

"I appreciate fully that mental hygiene cannot achieve its ends unless all medical practitioners realize its supreme importance and understand its problems. It is gratifying to be able to say that from the beginning the Medical School of the University of the Witwatersrand has recognized the importance of this subject in general practice, and has laid down a course which will ensure that all students qualified at that University will be able to help the Government in any mental hygiene work it undertakes.

"The same may be said of the Medical School of the University of Cape Town, where the course in mental hygiene is very good, but there is a difference, and one which I feel to be of great importance. It is that the University of the Witwatersrand makes the student prove that he has acquired the necessary knowledge in mental hygiene by compelling him to pass an examination in this subject. This is essential if, as a district surgeon or practitioner, he is called upon to help the Government in its mental hygiene problem. In the best modern universities psychological medicine ranks with general medicine and surgery as a major subject.

"In this country, where, as I have pointed out before, we have a small white population with a vaster non-white population, a good knowledge of mental hygiene on the part of all medical practitioners is indispensable. Because we are a young country with a relatively small population we can commence where older countries now wish they could have founded. In this connection I cannot do better than quote Dr. William A. White, who is an acknowledged world authority:

"'The whole subject of medical education, the equipment of the individual to practise medicine, is a complex one, and very naturally the claims of medicine as applied to the lower levels—to the physical and the physiological—have received attention long before the claim of medicine to be applied at the psychological level.

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The psychological level is the last level to come within the ken of the physician because it is the most complex and the most difficult to confront and requires a great deal of knowledge about the lower levels before it can be approached at all. Therefore it has remained the stronghold of the charlatans and the faith curists.

"'Practically none of the older physicians have ever had courses in their medical training that dealt with mental disorders, and very few of the younger practitioners have ever had anything that remotely resembles an adequate course of instruction. Therefore, the physicians, themselves unable to meet these conditions, are indirectly one of the greatest sources of revenue of the charlatan. The charlatan gets what the physician cannot deal with. It becomes, therefore, the duty of the physician to equip himself to handle these conditions rather than to bewail the fact that his patients go elsewhere.

Such remarks will not apply to the rising generation of medical practitioners trained in South Africa, where they have 2½ years training in psychology and psychological medicine, nor will it apply at all when all medical men realize, as some of the best universities have realized, that this subject is of fundamental importance—that treatment of illness at the psychological level is even more important than at the physical and physiological.

Victoria.

In the report of the Inspector-General of Mental Hospitals for the year 1925, it is shown that there were at the end of the year a total of 6,282 certified insane in civil institutions in Victoria (an area of about half as large again as England and Wales, with a population of approximately 1,700,000), and statistics show that there has been an average annual increment of about 37 cases during the past ten years. Owing to the steady increase in the population it is shown that while in 1911 there was one certified person to 245 of the general population, in 1925 the proportion is one certified person to 268 of the population. The Yarra Bend State Hospital ceases to function after the date of this report, the patients having now been transferred to Mont Park, and the State institutions will be eight in number: Kew Idiot Institution, Kew Asylum, Ararat, Beechworth, Sunbury, Ballarat, Royal Park and Mont Park.

The numbers admitted into the State Hospitals for the year were 746 (M., 399; F., 347)—the numbers admitted into the Receiving Houses 850 (M., 472; F., 378), but it is noted that something like 40% of the admissions to the Receiving Houses could have been certified and sent direct to the State Hospitals, which would have materially prevented overcrowding in the wards of the Receiving Houses, which are meant for the accommodation of doubtful cases "for observation, and the treatment of early and readily curable cases." The difficulties of a Receiving House are also shown in Dr. Shaw's report on that at Ballarat:

"As in former years, there has been among patients admitted a comparatively large number of cases by no means falling under the category of 'Receiving House cases.' These cases included such well-marked and chronic forms of insanity as senile dementia, primary dementia, imbecility, etc.

"The average number daily resident throughout the year, three males and five females, shows a diminution of one male as compared with the year 1924. Notwithstanding the fact that a number of unsuitable cases was admitted, there were

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some to whom the provision of accommodation offered by the Receiving House was a distinct advantage.

"Under the present conditions, owing to the comparative inaccessibility of the Receiving House, resulting in the lack of sufficient medical supervision, it is necessary to transfer to the Hospital for the Insane patients who, under other conditions, might remain at the Receiving House. Also, at times it has been necessary to transfer patients who might become an annoyance to the neighbours owing to their noise. Whatever arrangements are made with regard to this, it is impossible to prevent the Receiving House from being an annoyance at least to the nearest neighbours. If it were possible to sell the Receiving House building to advantage and build new Receiving House wards near the Hospital for the Insane, there would be a great advantage; more supervision could be exercised and more economy would result."

and again in the report of Dr. Philpott on the Receiving House at Mont Park—

"In a certain number of these cases it seems that acute exacerbations of symptoms are marked as a separate attack, whereas the condition, as in congenital mental deficiency and primary dementia, is really a continuous one. The common 'nervous breakdown' of years before is really the danger sign of a permanent or long-lived psychosis which, had it been treated by one expert in such conditions before it became organized, would in many cases have recovered."

The urgent need of a central research laboratory "modelled upon the lines of the Maudsley Laboratory" is referred to by Dr. Lind, the State Neurologist and Pathologist to the Lunacy Department.

The State Superannuation Act, which is contributory, came into operation in January, 1926.

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Part IV.—Notes and News.

THE ROYAL MEDICO-PSYCHOLOGICAL ASSOCIATION.

Quarterly Meeting.

The usual Quarterly Meeting of the Association was held on Wednesday, May 16, 1928, at the House of the British Medical Association, Tavistock Square, London, under the Presidency of Dr. Hamilton Marr, F.R.F.P.S.

The Council met the same morning and the various Committees on the previous day.

The Minutes.

The minutes of the previous meeting, having already appeared in the Journal, were taken as read and approved and signed by the President.

Obituary.

The President said he now had the sad task of announcing the deaths of members, several of whom had departed since the last meeting.

Sir David Ferrier.

In the first place, a very famous Honorary Member of the Association died on March 19, namely, Sir David Ferrier. It was quite unnecessary for the speaker, to refer at all fully to the work and career of Sir David, as there would appear in the next issue of the Journal a memoir and portrait of him.

Dr. Landel Rose Oswald.

Another deceased member was Dr. Oswald, who was an ordinary member from 1890 to 1926. Dr. Oswald was formerly Medical Superintendent of the Royal Asylum at Glasgow, and died on March 24. For many years he, the President, was closely associated with him. Dr. Oswald was the most brilliant graduate in medicine of his year at Glasgow University, and all who came into contact with him had for him the greatest admiration. But Dr. Oswald also possessed great administrative powers, and those qualities which made the true gentleman. It was a great sorrow to hear of his death. Yet, after all, the end came as a great relief, as he endured much suffering in later years.

Dr. Donald Ross said that, as the President had already remarked, Dr. Oswald was a most brilliant student in Glasgow University, and he carried that brilliance throughout the remainder of his career. He was a man of great intellectual alertness and ability, and of a most virile personality; in addition, he was one of the ablest debaters this Association had ever had. It was, however, more particularly in personal relationships that one learned to appreciate Dr. Oswald. He was a very strict disciplinarian, yet no man could be more considerate towards assistants or be a more staunch friend in times of stress and trouble. During the last few years he had been absent from the Association's meetings, the reason being that he was laid aside by a painful and distressing illness. Those who knew Dr. Oswald respected him greatly, and, remembering his sufferings at the last, they could not help feeling relieved that he had now passed to his rest.

Dr. Alexander Simpson.

The next name was that of Dr. Alexander Simpson, who was an ordinary member from 1901 to 1927. Dr. Simpson, a Scotsman, was born and educated in Aberdeen. From 1901 to 1923 he was Medical Superintendent of the Lancashire County Mental Hospital, Winwick. A capable administrator, he was devoted to his profession and was regarded as the soul of honour and loyalty.

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The following also have died, but the news of their death only reached us recently:

Dr. Alexander Lawrence.

Dr. Lawrence, who had been an ordinary member since 1870, died on November 23, 1926. He was Superintendent of the Cheshire County Asylum, Chester, from 1895 to 1910. He was a Banffshire man and sought his fortunes in England, and was 81 at his death. He was one of the few remaining members who joined the Association in the 70's. He was a great administrator, sportsman and naturalist, and was highly respected as a psychiatrist. He was beloved in Cullen, his place of birth, and in Chester, his adopted city.

Dr. J. W. Stirling Christie.

Dr. Christie, who had been an ordinary member of the Association since 1880, died on October 17 last. He was Medical Superintendent of the County Mental Hospital, Stafford, from 1887 to 1919. Of reserved disposition, his energies were entirely devoted to his hospital, over which he presided with skill and discernment.

Dr. Henry Albert Layton.

Dr. Layton was an ordinary member since 1883, and died on December 8 last. He was Medical Superintendent of the County Asylum, Bodmin, Cornwall, from 1897 to 1914. He was a dignified and able physician, greatly respected by all.

He, the President, moved that letters of sympathy be sent to the nearest relatives of the deceased members.

This was carried. Members rose in their places as a sign of their sympathy.

THE ANNUAL MEETING.

The PRESIDENT announced that the Annual Meeting of the Association would take place, under the presidency of Dr. Shaw Bolton, at Wakefield, on July 10, 11, 12 and 13.

H.R.H. PRINCESS MARY AND MENTAL NURSING.

The PRESIDENT proposed that Her Royal Highness Princess Mary, Viscountess Lascelles, should be awarded the Association's nursing medal in gold and the Certificate in Mental Nursing (Honorary).

This was unanimously approved amid applause.

THE REPORT OF THE COUNCIL.

The PRESIDENT said he had to report on several matters which were discussed at the meeting of the Council which was held a few hours previously.

He was pleased to announce that Dr. Nathan Raw had been nominated President-elect of the Association. (Applause.)

Arising out of the Report of the Mental Nursing Advisory Committee to the General Nursing Councils, it had been arranged that the Scottish Section of the Committee should meet the General Nursing Council of Scotland; and it had been considered desirable that a similar meeting should be arranged, as soon as possible, with the General Nursing Council for England and Wales.

Agreed.

Very interesting reports had been received from the ex-President on progress made in regard to Honorary and Corresponding Members' Certificates, the Bronze Medal, the issue of Past-Presidents' badges, the Gaskell Medal, and also the revision of the Bye-Laws. The Association was much indebted to Col. Lord for the work he was doing in these important matters. (Applause.)

Dr. G. W. B. James had been appointed official delegate to the Congress of French-speaking Alienists and Neurologists. Dr. Donald Ross and Dr. A. Walk would also represent the Association.

In connection with the Annual Meeting in July, invitations were being sent to the principal foreign psychiatric societies abroad, and the suggestion had been adopted that these invitations should be approved by the Governments concerned. The Council felt that not only should the Association welcome distinguished psychiatrists from abroad, but also that they should represent their Governments.

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Election of New Members.

The President nominated Dr. Douglas McRae and Dr. W. M. Buchanan as scrutineers for the ballot of new members.

The following candidates were unanimously elected ordinary members of the Association, *en bloc*:

Finiefs, L. A., L.R.C.P., M.R.C.S.Lond., M.D.Paris, Assistant Medical Officer, Three Counties Mental Hospital, Arlesey, Beds.
Proposed by Drs. L. O. Fuller, P. D. Hunter and R. Worth.

Gall, Major Herbert, M.R.C.S., L.R.C.P.Lond., Royal Army Medical Corps, Officer in Charge of "D" Block, Royal Victoria Hospital, Netley.
Proposed by Major W. L. Webster, and Drs. Thomas Beaton and F. E. Stokes.

Strecker, Herbert A. J., M.D., M.S., Priv.-Doz. Ment. Dis. Univ. Wurburg; Hon Research Appointment to the Joint Board of Research for Mental Diseases, City and University of Birmingham; Hollymoor Mental Hospital, Northfield, Birmingham.
Proposed by Drs. F. A. Pickworth, T. C. Graves and K. A. H. Sykes.

Abd-el-Hakeem, Mohammed, Dipl. Med. and Surg., Cairo Med. Coll., D.P.M., Assistant Medical Officer, Mental Hospital, Abbassiya, Cairo, Egypt.
Proposed by Drs. H. W. Dudgeon, R. S. Miller and Mohamed el Kholy.

Statham, Hugh, M.B., B.C.Camb., M.R.C.S., L.R.C.P.Lond., Physician for Nervous Diseases, Royal Victoria and West Hants Hospital.
Proposed by Drs. Doris M. Odlum, J. R. Lord and R. Worth.

Shepherd, Andrew, M.B., Ch.B.Glasg., Second Assistant Medical Officer, Hill End Mental Hospital, St. Albans, Herts.
Proposed by Drs. W. J. T. Kimber, E. D. T. Roberts and R. Worth.

Boyle, Eric Patrick, M.B., Ch.B.Edin., Junior Assistant Medical Officer, Durham County Mental Hospital, Winterton, Ferryhill.
Proposed by Drs. G. F. May, M. A. Archdale and H. D. MacPhail.

Patterson, Edward Cecil, M.B., B.Ch.Belf., Fourth Assistant Medical Officer, Devon Mental Hospital, Blackadon, Ivybridge.
Proposed by Drs. R. Eager, W. Starkey and C. F. Bainbridge.

This concluded the Business Meeting.

An adjournment was then made to the Great Hall to hear the Maudsley Lecture.

Just prior to the delivery of the Maudsley Lecture Lt.-Col. J. R. Lord presented to the President Dr. J. Bresler, an Hon. Member of the Association since 1900.

Col. Lord said that Dr. Bresler was one of the foremost organizers of psychiatry in Germany, was editor of the *Psychiatrisch-Neurologische Wochenschrift*, and for 28 years had been a good friend to the Association and on several occasions given service of great value. (Loud applause.)

The Maudsley Lecture.

The President said it was a special pleasure, a pleasure and honour combined, to introduce his former colleague, Sir John Macpherson, who had been selected this year's Maudsley Lecturer. Sir John needed no introduction to members of this Association, for he was a past-President and honorary member, in whose wise counsel the Association had stimulus and support. The older one grew, the more clearly one recognized that the path of psychological medicine was almost as narrow as the Pilgrim's Way. Sir John Macpherson had entered by the wicket gate into that path, and in the course of his journey he had come across many who might have stumbled and fallen by the way had it not been for his guidance, counsel and support. (Applause.) But there was one person he could never tolerate, and that was that mental gymnast, Ignorance, who got into the Way by a crooked, narrow little lane from the City of Conceit. All who designed to enter on the Pilgrim Way, in the entire sense of that term, found Sir John an able adviser and a friend. The Civil Services of this country said that a man grew old at a certain age, and must then seek an honoured retirement. The speaker considered, however, that Sir John Macpherson possessed the secret of perennial youth, as he refused to accept the dictum of the Civil Service, and went abroad, where he became the occupant of the first Chair in Psychiatry in Sydney University, a position which he held for five years in such a way as to confer dignity and honour

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on all with whom he came into contact, and he laid the basis of sound psychiatric training in Australia.

And now members were gathered to-day to hear him speak on psychiatry and to learn from Sir John's long experience.

Sir JOHN MACPHERSON, *C.B.*, M.D., F.R.C.P.E., then delivered the Ninth Maudsley Lecture on "The New Psychiatry and the Influences which are Forming it." Over 100 members and visitors were present.

Dr. J. G. SOUTAR said he had been asked to discharge what was to him a very pleasant duty, and what he was sure would receive the enthusiastic approval of everyone in the room, and not only in this room, but when the words of the lecturer found their way into print and were read, throughout the world. It was to voice an expression of high appreciation and very sincere thanks for this Maudsley Lecture. (Applause.) It had occurred to him, during its delivery, how great was the occasion when the occasion and the man came together. That coincidence in this case was, of course, of the highest possible value, and he thought that at this time, and during recent years, when so much valuable work had been done in different directions in psychology, some person was wanted who could bring together, in the way Sir John had done, the different lines of work on the subject. With his special equipment, which he had both by nature and in his philosophical, critical and sympathetic attitude towards the work, and by his long and varied experience, he had had the opportunity of bringing the theories which had necessarily been promulgated—some of them carried to extreme length—to the test of an experience, which was a valuable one.

This lecture, he felt sure, would be of the greatest possible importance and value in making psychiatrists realize how far they had gone, and in what respects they had gone wrong in the work they had been doing. It was also valuable because of the encouragement the Lecturer had given from his experience to much which the Association had been working at, namely, the proper attitude, or the proper balance, which ought to be held between the legal and the medical aspects in dealing with patients.

Dr. W. F. MENZIES said he seconded the vote of thanks to Sir John Macpherson with very great pleasure. Members knew that Sir John was a man of abysmal knowledge, also that he was an orator, therefore those who had heard this lecture were not disappointed. It had been a most charming lecture, and delivered with the greatest eloquence.

The resolution of thanks was carried by acclamation.

This terminated the meeting, after which members and their guests took tea together in the restaurant.

SOUTH-EASTERN DIVISION.

THE SPRING MEETING of the South-Eastern Division took place on Thursday, April 5, 1928, at the Royal Eastern Counties' Institution for Mental Defectives, Essex Hall, Colchester.

There were present, Lord Sandhurst and twenty-one other members.

On arrival members were welcomed by a Guard of Honour consisting of the School Companies of Guides and Scouts, an adult Company of Guides, the first male gymnasium team and the women's gymnasium team, suitable music being provided by the patients' brass band.

Short demonstrations of the methods of oral-manual training for lower-grade defectives by the Lower Boys' School, Guide drill and ambulance work by the adult company, drill dancing and singing by the Upper Boys' School were given in one of the class-rooms, followed by gymnasium displays by the women's and men's teams and semaphore signalling by the Upper Girls' School.

Members were afterwards hospitably entertained to luncheon by Dr. F. Douglas Turner, the Medical Superintendent.

Lt.-Col. LORD, in proposing the health of "Our Host," referred to the pleasure it gave to all of them to meet at an institution for mental defectives, and which was symbolic of the better provision which had recently been made within the Association for the study of mental deficiency and its definite recognition as an important and progressive branch of the Association's work.

The meeting was then held. Lt.-Col. J. R. Lord, *C.B.E.*, M.D., F.R.C.P.E. ex-President, presided.

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The minutes of the last meeting, having appeared in the Journal, were taken as read. They were confirmed and signed by the chairman.

Dr. Noel Sergeant was elected Hon. Divisional Secretary, and Drs. H. J. Norman, J. R. Whitwell, N. R. Phillips, E. Casson and H. G. L. Haynes were elected, Representative Members of the Council.

Drs. H. G. L. Haynes, R. M. Macfarlane and P. K. McCowan were elected to fill vacancies on the Divisional Committee of Management.

The following candidate for ordinary membership was, after a ballot, declared unanimously elected:

S. W. DAVIES, M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, Kent County Mental Hospital, Maidstone.

Proposed by Drs. H. Wolseley-Lewis, W. E. Collier, and T. Ronald Forsythe.

Dr. D. F. Rambaut was nominated to represent the Division on the Mental Nursing Advisory Committee to the General Nursing Council for England.

It was left to the Secretary to fix the date and place of the Autumn Meeting.

There was some discussion on the arrangements in progress of being made for Clinical Meetings in the Division.

Dr. F. DOUGLAS TURNER then read a paper on the "Aims and Objects of a Mental Deficiency Institution."

Some discussion followed, and the Chairman voiced the thanks of the meeting for this very interesting and informative paper.

Members were then given a most interesting display of Dalcroze eurythmics and dancing in costume by female patients, which was followed by an inspection of the training shops and an exhibition of the articles produced. Members were impressed by the fine work done, much of it being very artistic. It demonstrated what can be done in this direction by excellent organization and effective training and teaching in an institution devoted to the care and treatment of mental defectives, and the marked advance made in recent years in this branch of psychiatry.

Dr. and Mrs. Turner entertained the members to tea.

SOUTH-WESTERN DIVISION.

THE SPRING MEETING of the South-Western Division was held, by kind invitation of the Warden and Managers, at Stoke Park Colony for Mental Defectives, Stapleton, Bristol, on Thursday, April 26, 1928.

Twenty-two members and two visitors were present. Dr. J. G. Soutar was voted to the Chair.

The minutes of the last meeting were confirmed and signed by the Chairman.

Apologies for absence were received from Col. J. R. Lord, Drs. G. W. T. H. Fleming, J. D. Thomas, R. Eager and others.

Dr. W. Starkey was re-elected Hon. Divisional Secretary, and Drs. R. Eager and J. G. Soutar representative members of Council for 1928–29.

Drs. S. E. Martin and J. P. Phillips were elected members of the Committee of Management.

It was resolved to submit the name of Dr. E. C. Barton-White to the Nominations Committee as the representative of the Division on the Mental Nursing Advisory Committee to the General Nursing Councils.

It was proposed that the Autumn Meeting of the Division be held on Friday, October 26, 1928, the place to be arranged by the Hon. Divisional Secretary.

A letter from the General Secretary was read, in which the Division was invited by the Council to elect a matron, assistant matron or sister tutor to represent the Division on a proposed "Nursing Advisory Committee to the Education Committee." This proposal was discussed at some length by Drs. S. V. Blachford and J. G. Soutar, and there was a strong feeling that it was an ill-advised and dangerous experiment which might have far-reaching results. If, however, the Annual Meeting, to which the proposal will be submitted, decided that such a Committee should be formed, then this Division would be prepared to nominate a member.

The HON. DIVISIONAL SECRETARY reported that as regards the question of Clinical Meetings, areas had been formed with centres at Oxford, Bristol, Exeter,

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Dorchester, and Monmouth and that the following gentlemen had kindly agreed to act as Area Secretaries: Drs. Davies Jones (Oxford), Barton White (Bristol), Eager (Exeter), Fleming (Dorchester) and N. R. Phillips (Monmouth). Clinical Meetings had been arranged in each area, and it was hoped that the members would loyally support the scheme.

Drs. R. W. BRANTHWAITE and W. BROWN then gave a short account of the Colony and demonstrated a most interesting series of cases, illustrating almost every type of mental defective.

During the forenoon the members were afforded an opportunity of inspecting this fine institution, and visited the various wards and workrooms, schoolrooms, weaving sheds, etc., and witnessed an exhibition of dancing by some of the children.

The members were very kindly entertained to lunch and tea by Mrs. Burden, wife of the Warden, to whom a hearty vote of thanks was accorded for giving the Division the opportunity of meeting at Stoke Park, and entertaining members so hospitably.

NORTHERN AND MIDLAND DIVISION.

THE SPRING MEETING of the Northern and Midland Division was held, by courtesy of Dr. J. Macarthur and the Committee of Visitors, at the Lincoln County Mental Hospital, Bracebridge Heath, on Thursday, April 26, 1928.

Twenty-two members and three visitors were present.

Members were shown over the hospital and afterwards entertained to lunch by Dr. Macarthur.

Dr. R. C. STEWART moved a cordial vote of thanks to Dr. Macarthur for his kindness in inviting the Division to meet at Bracebridge, and for the traditional hospitality they had received. This was carried unanimously.

Dr. Macarthur was voted to the Chair.

The minutes of the Autumn meeting were read, confirmed and signed by the Chairman.

Letters expressing regret at inability to attend and sending good wishes for a successful meeting were received from Col. J. R. Lord, Drs. J. R. Gilmour, Donald Ross, W. J. Vincent and Henry Yellowlees.

The Divisional Committee reported that up to date Clinical Meetings had been held at the following hospitals: Nottingham City, Prestwich, Rubery Hill, Leicester City, Chester County, Sunderland and Newcastle City, and that dates were arranged for meetings at Rainhill, Burntwood, Wadsley, Middleton Hall and Northumberland County.

The membership of the Division was 159.

Dr. J. B. Tighe was re-elected Hon. Secretary of the Division, and Drs. M. A. Archdale, G. L. Brunton and J. R. Gilmour Representative Members of Council for 1928–29. The invitation of Dr. H. G. Drake-Brockman to hold the Autumn Meeting at St. Luke's Hospital, Middlesbrough, on Thursday, October 25, 1928, was accepted.

The following candidates were unanimously elected by ballot ordinary members of the Association:

ELIZABETH SARAH MARPLES SYKES, M.B., Ch.B., Assistant Medical Officer, South Yorks Mental Hospital, Wadsley, Sheffield.
Proposed by Drs. W. Vincent, J. M. Mathieson and J. B. Tighe.

HARRY EDELSTON, M.B., B.Ch., D.P.M.Leeds, Senior Assistant Medical Officer, West Riding Mental Hospital, Wakefield.
Proposed by Drs. J. F. Smyth, J. Shaw Bolton and M. J. McGrath.

KENNETH CECIL LAURENCE PADDLE, *M.C.*, M.R.C.S., L.R.C.P.Lond., D.P.M., Leeds, Senior Assistant Medical Officer, West Riding Mental Hospital, Wakefield.
Proposed by Drs. J. F. Smyth, J. Shaw Bolton and M. J. McGrath.

ARTHUR WALLACE HERBERT SMITH, M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, South Yorks Mental Hospital, Sheffield.
Proposed by Drs. W. Vincent, J. M. Mathieson and J. B. Tighe.

Dr. H. Dove Cormac was unanimously nominated to represent the Division on the Mental Nursing Advisory Committee for 1928–29 to the General Nursing Councils.

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It was decided that the election of the representative on a proposed "Nursing Advisory Committee to the Education Committee" would take place at the Autumn Meeting, and that the procedure adopted would be similar to that for the election of Representative Member of Council.

Dr. J. FRANCIS DIXON proposed and Dr. H. G. DRAKE-BROCKMAN seconded that the following resolution be submitted to the May meeting of the Council:

"It is recommended that the Male Staff of Mental Hospitals be represented on the 'Nursing Advisory Committee.'"

The resolution was unanimously approved.

Dr. W. REES THOMAS read a paper on "Dementia Præcox and Vitamins," (*vide* p. 460).

Several members took part in the discussion which followed. Dr. THOMAS, in replying to Dr. DOVE CORMAC, stated that the application of artificial sunlight without small doses of ergostural did not prove satisfactory.

The CHAIRMAN thanked Dr. Rees Thomas for his interesting paper, and the meeting terminated.

Members were afterwards very kindly entertained to tea by Mrs. Macarthur.

SCOTTISH DIVISION.

THE SPRING MEETING of the Scottish Division was held at the Station Hotel, Dumfries, on Thursday, May 24, and at the Crichton Royal Institution on Friday, May 25, 1928.

There were present eighteen members.

Dr. R. D. Hotchkis, Divisional Chairman, occupied the Chair.

Before taking up the ordinary business of the meeting, the CHAIRMAN feelingly referred to the death of Dr. Landel R. Oswald, who had joined the Association in 1890, and who first, as Medical Superintendent of the Glasgow District Mental Hospital at Gartloch, and later as Physician Superintendent of the Glasgow Royal Mental Hospital, Gartnavel, had rendered valuable services in the care and treatment of the insane. He also spoke of Dr. Oswald's fine personal qualities, and of the deep interest he always took in the affairs of the Scottish Division.

Dr. C. J. SHAW also paid tribute to Dr. Oswald's memory.

It was unanimously resolved that it be recorded in the minutes that the members of the Scottish Division of the Royal Medico-Psychological Association desire to express their deep sense of the loss sustained by the death of Dr. Landel R. Oswald, and their sympathy with the members of his family in their bereavement. The Secretary was instructed to send an excerpt of the minute to the relatives.

The minutes of last Divisional Meeting were read and approved and signed by the Chairman.

Apologies for absence were intimated from the President, Drs. H. de M. Alexander, J. S. Annandale, R. Mary Barclay, William Boyd, L. C. Bruce, R. B. Campbell, Henry Carre, Alexander Dick, James Gray, John Keay, T. C. Mackenzie, Angus McNiven, S. R. Macphail, J. H. C. Orr, F. E. Reynolds, G. Dunlop Robertson, Patrick Steele, F. Sutherland, I. D. Suttie, D. Yellowlees, Prof. G. M. Robertson and Edwin Bramwell, Rev. Claude O'Flaherty and Sir Arthur Rose.

On the motion of the CHAIRMAN, seconded by Dr. W. D. CHAMBERS, Dr. C. C. Easterbrook was unanimously elected Chairman of the Division for the ensuing year.

Drs. R. B. Campbell and Neil T. Kerr were unanimously elected Representative Members of the Council for the year 1928–29, and Dr. Wm. M. Buchanan was unanimously re-elected Divisional Secretary.

The following candidates after ballot were unanimously admitted as ordinary members of the Association:

JOHN MCDOUGALL, M.B., Ch.B.Glas., Senior Assistant Physician, Crichton Royal, Dumfries.

Proposed by Drs. C. C. Easterbrook, C. J. Shaw and Prof. G. M. Robertson.

WILLIAM JOHN RAITT, M.B., Ch.B.Aberd., Assistant Physician, Crichton Royal, Dumfries.

Proposed by Drs. C. C. Easterbrook, R. Dods Brown and G. H. R. Gibson.

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JAMES MCLAUGHLAN JOHNSTON, M.B., Ch.B.Edin., Assistant Medical Officer, Mental Hospital, Westgreen, Dundee.

Proposed by Drs. W. Tuach Mackenzie, N. T. Kerr and W. M. Buchanan.

JAMES GRAY, M.B., Ch.B.Edin., Junior Assistant Medical Officer, District Asylum, Inverness.

Proposed by Drs. T. C. Mackenzie, W. McWilliam and W. M. Buchanan.

The SECRETARY reported that the Business Committee had met on March 30, 1928, and considered the reference with regard to Divisional Clinical Meetings, and made the followings unanimous recommendations:

1. That Scotland be one area for Divisional Clinical Meetings.

2. That Divisional meetings in future he held quarterly at hospitals, instead of biannually as at present, so that the additional two meetings might be almost entirely clinical in character.

3. That Medical Superintendents be asked to present clinical material at meetings.

4. That Medical Superintendents be asked to encourage their assistant medical officers to attend these meetings and give them facilities for so doing.

The meeting, having considered the recommendations of the Business Committee, unanimously agreed to adopt them, and the Secretary was instructed to arrange accordingly.

The SECRETARY reported generally upon the steps which were being taken to have the Association's Nursing Certificate recognized by the General Nursing Councils as qualifying for registration in the Section for Mental Nurses of their Registers.

The SECRETARY reported that the Secretary of the Nominations Committee had requested that an additional member of the Division be nominated to serve on the Advisory Committee to the General Nursing Council for Scotland, and that he had put forward the name of Dr. Douglas McRae, who had been originally nominated by the Division, but had not been called upon to serve. The meeting approved of the action of the Secretary in the matter and unanimously confirmed the nomination of Dr. McRae, the other members being Prof. G. M. Robertson, Dr. J. Keay, T. C. Mackenzie and W. M. Buchanan.

Prior to the Business Meeting the members dined together at the Station Hotel. This concluded the business of the first day's session.

On the meeting reassembling on the morning of May 25, members were conveyed to the Crichton Royal, and on the way Dr. Easterbrook pointed out many of the places with historical and literary associations, with which Dumfries abounds.

The forenoon was spent in a visit to the hospitals, villas, etc., including "The Hospice"—the new Reception Hospital and Infirmary for the Crichton Hall Department—which was much admired by all. In the course of the visit two cases of Huntingdon's chorea, a case of advanced disseminated sclerosis and a case of aphasia following a depressed fracture of the skull with coal-gas poisoning were demonstrated by Dr. Raitt.

Members were kindly entertained to lunch at Crichton Hall, after which Dr. Hotchkis expressed the cordial thanks of the Division to the Board of Directors of the Crichton Royal and to Dr. Easterbrook for the arrangements made in connection with the meeting and for their kind hospitality.

During the afternoon members were conducted over the garden, including the extensive rock garden, the farm and policies, and thereafter were kindly entertained to tea at Crichton House by Dr. and Mrs. Easterbrook.

IRISH DIVISION.

THE SPRING MEETING of the Irish Division was held on Thursday, April 12, 1928, at St. Edmondsbury, Lucan.

There were twelve members present, Lieut.-Col. W. R. Dawson, *O.B.E.*, M.D., in the Chair.

Before proceeding with the business of the meeting, the Chairman made a condolatory reference to the recent death of Dr. H. M. Eustace, and the Hon. Secretary was directed to forward to Mrs. Eustace a letter expressing the sympathy of the Division with her in her bereavement.

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The minutes of the previous meeting were read, approved and signed.

Correspondence was read, including letters of apology for unavoidable absence received from Drs. M. J. Nolan, O. F. McCarthy, P. J. Irwin and L. Gavin.

A letter was read from Dr. R. Worth, General Secretary, stating that the question of defraying the railway expenses of Divisional Secretaries attending meetings in England had been referred to the Council for consideration.

The HON. SECRETARY reported that he had written to the Minister of Local Government, forwarding copy of resolutions of November 17, 1927 (London) adopted by the Royal Medico-Psychological Association *re* the recognition of the certificate of the Association for the State registration of mental nurses, but had received only a curt acknowledgment.

The Hon. Secretary's action in applying to the Council for permission to carry out proposed new method of election of Hon. Secretary and two Representative Members of Council of the Division by show of hands was approved.

The meeting then proceeded to ballot for posts of Hon. Secretary and two Representative Members of Council, Dr. R. Thompson and Dr. Blake being appointed scrutineers. The Chairman declared Dr. R. R. Leeper elected Hon. Secretary and Dr. J. O'Conor Donelan and Dr. S. J. Graham elected Representative Members of Council for 1928–29.

Dr. R. R. Leeper and Dr. J. O'Conor Donelan were nominated Examiners for the Certificate in Psychological Medicine.

Election of new members.—The following candidates were balloted for and unanimously elected ordinary members:

DOROTHY MARGARET GARDNER, M.B., B.Ch., B.A.O., D.P.H., Assistant Medical Officer, Belfast Mental Hospital, Purdysburn.

Proposed by Drs. S. J. Graham, N. Graham and R. Thompson.

GEORGE EDWARD DODDS, M.B., B.Ch.Dubl., Assistant Medical Officer, St. Edmondsbury, Lucan, co. Dublin.

Proposed by Drs. R. R. Leeper, J. O'Conor Donelan and R. Taylor.

It was decided to hold meetings on the following dates: Autumn meeting, Thursday, November 1, 1928; Spring meeting, Thursday, April 4, 1929; Summer meeting, Thursday, July 4, 1929.

The meeting next proceeded to discuss the report of the Sub-Committee *re* the report of the "Commission on the Relief of the Destitute Sick and Poor, including the Insane Poor." The report was discussed, and, after some amendment, adopted. The Hon. Secretary was directed to have it printed and forwarded to the Government at the earliest possible date.

The meeting next considered the question of the recognition of the Association's Certificate of Proficiency in Mental Nursing for registration by the General Nursing Councils and letters were read from Dr. Kimber and others. It appeared that nurses holding the Association's Certificate were now eligible for registration by the General Nursing Council of the Irish Free State. The Hon. Secretary was directed to write to the Secretary of the General Nursing Council, asking him to formally confirm this verbal assurance.

The next item on the agenda was the matter of holding Divisional Clinical Meetings in mental hospitals. It was noted with satisfaction that the Committees of Grangegorman Mental Hospital, Belfast Mental Hospital, Cork Mental Hospital, Londonderry Mental Hospital and Clonmel Mental Hospital cordially approved, with the Government's sanction, of these Clinical Meetings. Reports from other mental hospitals had not yet been received, but the meeting at once appointed a sub-committee (with power to add names) to deal with the matter. The Hon. Secretary submitted proposed arrangements for meetings and also draft letters which were approved.

Dr. R. THOMPSON read a paper on "Blood-Pressure and Mental Disease" (*vide* p. 493). This was fully discussed.

Dr. DONELAN mentioned that he had recently had a depressed case with a high pressure and that he had tried trinitrin. This reduced the pressure, with a marked mental improvement, but, as a rule, the pressure rose again within a few days. Unfortunately, a cerebral hæmorrhage ended the experiment. It was generally agreed that many questions of great clinical interest arose from these careful blood-pressure observations.

The CHAIRMAN then thanked Dr. Thompson for his paper and appreciated the careful clinical observations which he had made, and said that it was only by such

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careful clinical work that advance in curative treatment of mental disease was possible.

A vote of thanks was accorded to Dr. Leeper for his hospitality. The HON. SECRETARY, in reply, stated that the Division had re-elected him for the eighteenth year, and he only wished he could have served them better.

DIVISIONAL CLINICAL MEETINGS.

City Mental Hospital, Gosforth, Newcastle-upon-Tyne.

The second clinical meeting of the Newcastle-on-Tyne Area was held at the above hospital on Wednesday, April 18, 1928.

Present, thirteen members. Dr. H. D. MacPhail presided.

Dr. MACPHAIL opened a discussion on schizophrenia, in which he dealt with the subject from the psychological point of view, the object of the discussion being to correlate psychological theories with clinical findings as discovered in actual cases. Most members took part, and many useful and instructive points were raised.

Dr. J. BRAITHWAITE opened a discussion on the position of the endocrines in mental disorder. He dealt with the question from the points of view of both mental deficiency and mental disorder, referring to the cases of defect due to thyroid and pituitary abnormality, and discussing the probability of mongolism being attributable to endocrine imbalance. In dealing with the psychoses he emphasized the importance of underlying physical causes, and drew attention to the fact that disorder resulting from endocrine defect is usually to be found at periods of established endocrine instability. He outlined the changes found at the periods of adolescence, child-bearing and climacterium, and indicated the endocrine alterations which were so often associated with these mental features. He also referred to the pathological findings in schizophrenia, and made special reference to the work of Mott. He gave the results of treatment in a limited number of cases of psychoses associated with adolescence, climacteric and the puerperal period.

Dr. J. P. STEEL gave his experience of endocrine therapy in a great variety of clinical cases, indicating that very striking results could be got in the treatment of certain physical conditions which were common enough in mental hospital patients; he also gave the results of treatment in the psychoses. He emphasized the importance of using only reliable preparations, and said that quite small doses of some preparations were efficacious, while others gave very uncertain results. He gave a number of practical points in the details of carrying out treatment.

Dr. R. E. ILLINGWORTH gave the results of his experience. He apparently got the best results in puerperal cases, and found thyroid extract to be most generally useful. This latter experience was endorsed by several speakers.

Dr. F. BACK gave details of a case of epilepsy with pituitary deficiency in whom endocrine therapy in the form of anterior pituitary tablets had been used without benefit. He exhibited graphs co-ordinating the results of treatment, and especially showing how the fits declined in number with the decrease in the weight of the patient from dieting.

Several other members gave their experience, and asked for opinions as to certain phenomena which had occurred in the course of therapy. Very helpful information was given in answer to such queries.

The general opinion appeared to be that endocrine therapy was a useful method, and one which in many cases hastened recovery.

Dorset County Mental Hospital, Herrison.

The first Clincal Meeting of the Dorchester area was held at the above hospital on April 30, 1928.

There were five members present. Dr. P. W. P. Bedford presided.

The CHAIRMAN showed a number of old-standing secondary dements who were being usefully employed on raffia work, etc., in the Department of Occupational Therapy. Some of these patients had been sitting idle for years and had been

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looked on by many as unemployable. A display was given of the work of this department—shell flowers, raffia work, leather work, stools, mats, baskets, silvered bowls, etc.

Dr. J. A. ROBERTSON showed some cases of general paralysis who were receiving tryparsamide treatment. The clinical results were good, with some serological improvement in all cases treated.

Dr. J. J. O'REILLY demonstrated two cases of post-encephalitic Parkinsonianism, with copious clinical notes and remarks on the abnormal posture of the head based on the work of Kraus.

Dr. G. W. T. H. FLEMING demonstrated the colloidal paraffin and gum-mastic reaction in the cerebro-spinal fluid; the original and modified forms of the Boltz test; the Meinicke micro-reaction for syphilis; and pathological specimens. He also showed two cases treated with tryparsamide and metallic bismuth, one of which showed very marked clinical improvement.

Rainhill Mental Hospital, near Liverpool.

A Divisional Clinical Meeting was held at the above hospital on May 2, 1928.

Present: Twelve members and eleven visitors. Dr. E. F. Reeve presided.

Dr. A. POOL, of Rainhill Mental Hospital, read a paper by Dr. G. A. Watson and himself on "A Correlation of Clinical and Pathological Findings in Two Cases of Epidemic Encephalitis" (*vide* p. 400).

Dr. DOUGLAS BIGLAND (Liverpool) thanked the Chairman for the privilege of being present at the meeting, and congratulated Dr. Pool and Dr. Watson on their excellent work—well worthy of the Rainhill tradition. Particularly interesting was the attempt to correlate physical signs with pathological findings. The changes in certain cranial nerve nuclei might account for a fine tremor, *e.g.*, of the tongue, but could hardly be held responsible for coarser tremors. Similar lesions in similar situations, *e.g.*, in progressive muscular atrophy, were responsible only for fibrillary tremors. The explanation of extra-pyramidal rigidity was also criticized.

Dr. W. F. MENZIES (Cheddleton) said it had been a great pleasure to all to hear this paper. It was rare that one could see so clearly the appearances of the nerve-cells in encephalitis lethargica, and hear so fully described the exact divergences from the normal, detailed by one of the none too numerous band of histologists who really did know the characters of a cortical neurone under every conceivable condition of health and sickness. They all agreed that Dr. Watson was one of the greatest of living authorities in this regard. It was rather a pity that the two cases described were not purer in type—a pity, from the point of view of providing Dr. Pool with a theory of the anatomy of the nervous system. One would learn more from, say, a case of pure Parkinsonianism, in which, during life, there had been no recognizable intellectual defect, but only a muscular difficulty of expression, and where, after death, the lesions were limited to, say, the substantia nigra. Perhaps Dr. Watson would say that if all cases were adequately examined it would be found that none of them were pure. As to that he was not competent to judge, but he did think that if Dr. Pool's explanation of the symptoms could be accepted the mysteries of the hypothalamic region would be well forward towards solution. Unfortunately the matter was not so simple. Many schools of neurology had played with the idea of the dual innervation of muscle-fibres since Ramsay Hunt took up the theories of Boeke, Langelaan and others, and formulated his paleokinetic and neokinetic theory in answer to Sherrington's common final path. How easy things would be if it could be accepted that the sympathetic was the effector of tonus, as Hunter endeavoured to show. But the results had not been confirmed, and surgeons who had performed extensive sympathectomies of the grey rami had experienced only disappointment. Then direct observations upon the innervation of muscle-fibrils had failed to solve the problem even in the hands of such careful observers as Garven and Korenchevsky. Neither the ordinary fibrils nor the muscle spindles appeared to have any exclusive form of nerve-endings, whether sympathetic or somatic.

As to the central connections of the afferent sympathetic they were completely at sea, but regarding the efferent his personal leaning was towards agreement with Ranson that possibly the fibres ran in all columns of the cord. There was

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far too great a tendency to confuse the influence of the extra-pyramidal tracts, ponto-spinal, vestibulo-spinal, tecto-spinal and rubro-spinal, with that of the sympathetic. Undoubtedly there was in the hypothalamic region a whole series of switch-over junctions between cortical and subcortical motor mechanisms; but a very much larger series of cases would have to be examined and a very much larger number of laboratory experiments performed before they could have any adequate comprehension of the significance of what was roughly called the thalamic syndrome, which was only the starting-point of their knowledge of basal mechanism.

Dr. J. GIFFORD (Winwick) expressed appreciation of the thoroughness of method exemplified in the paper and hoped that further cases would be similarly dealt with. In a series of certified patients with this disease which was closely observed, he agreed that they were "flexed," but not fully fixed. The fixity was largely apparent only, for even after four years of chronicity the attitudes of flexion could be corrected by the patient on a sharp word of command or under encouragement, although the patient found it impossible to maintain this erect attitude. In sports, races, or where keenly interested, as in a game of football, these encephalitics performed astonishing feats of muscular activity with co-ordination. In addition to the salivary dribbling there was (in a proportion of cases say 1 in 4)—a nasal discharge, often intermittent, but at times profuse, and accompanied by nasal and labial irritation, which led the patient to rub or pick at the nose; this responded sluggishly to treatment. In one case there occurred a terminal wasting of the nostrils, neurotrophic in nature, with its resultant ugly deformity. Mentally some cases showed congenital deficiency and stigmata of degeneration, others presented undoubted attitudes and muscular eccentricities (mannerisms), resembling those of true dementia præcox. The histopathology before them to-day suggests a chameleon-like nervous distribution, and confirms an earlier suspicion that Parkinsonianism had not the same incidence and course in all encephalitics. They would like to see a histopathological correlation of cases of true dementia præcox alongside encephalitic cases with præcox features.

Dr. Pool, in reply, thanked on behalf of Dr. Watson and himself, those who had expressed their appreciation of the paper and subject by numerous helpful suggestions and criticisms. The tremors of the tongue, lips and eyelids described were of the fibrillary and not of the clonic variety, and were thus consistent with the nuclear lesion.

The criticisms voiced by Dr. Menzies and another speaker in which they pointed out the complete failure of surgery to afford any relief of symptoms by sympathetic ramisection were dealt with. The intricacy of the connections of the sympathetic nervous system, both pre- and post-ganglionic, was pointed out, illustrative of the fact that it would require a very extensive piece of surgery to sever all the fibres of sympathetic origin to any one muscle group. The fact that puncture glycosuria could be effectively controlled where a group of sympathetic fibres (glycogenetic nerves) allowed of *complete* access was suggestive, and tentatively confirmative of the hypothesis of release of a lower sympathetic reflex arc.

Dr. C. B. BAMFORD, of Rainhill Mental Hospital, read a paper on "Recent Observations on Treatment of General Paralysis" (*vide* p. 496).

Stafford County Mental Hospital, Burntwood, Lichfield.

A Divisional Clinical Meeting was held at the above hospital on Wednesday, June 6, 1928.

Present: Ten members. Dr. William Reid presided.

Dr. TAYLOR showed the temperature charts of seven cases of early or established pulmonary tuberculosis in which a graduated series of injections of Beraneck's tuberculin had been employed. A steadying of temperature after each injection was usual. A gain of weight was observed, and improvement, even with the disappearance of physical signs in some cases. Mentally, certain cases became quieter and brighter. Diagnosis of the disease in the insane was so difficult that he acted on a variation of one degree between the a.m. and p.m. temperature.

Dr. B. H. SHAW advocated taking swabs from the naso-pharynx for finding the bacillus. He found that epileptics who were tubercular showed a rise of temperature after a fit, by auto-inoculation from their focus of the disease.

Dr. G. W. FORSYTH stated that he had most help in diagnosis from X-rays and the

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sputum. In regard to tuberculin, it should be dropped if the temperature rose above 99°.

Dr. TAYLOR showed several pathological specimens of general interest.

A visit was paid to the male and female sun-rooms, where several cases of pulmonary tubercle and one of surgical tubercle were being treated.

South Yorkshire Mental Hospital, Wadsley, Sheffield.

A Clinical Meeting (Leeds area) was held at the above hospital on June 20, 1928. Ten members and thirteen visitors were present. Lt.-Col. W. J. N. Vincent, *C.B.E.*, M.B., presided.

Dr. Arthur Hall, Professor of Medicine, University of Sheffield, and Prof. J. S. C. Douglas, Dean of the Faculty of Medicine, University of Sheffield, expressed their regret at not being able to be present. It is regretted that Dr. Elizabeth Sykes was ill and unable to attend.

The CHAIRMAN welcomed the visitors and explained the objects of the Clinical Meetings, which were held under the auspices of the Royal Medico-Psychological Association, and expressed the hope that there would be further meetings from time to time. In the absence of Prof. Hall, he gave a few details of cases of encephalitis lethargica received into the hospital, and made a few remarks upon their treatment, and also showed some cases of Parkinsonianism.

Dr. J. M. MATHIESON gave a brief *résumé* of the treatment of general paralysis by induced malaria and the results obtained at Wadsley. He described contra-indications, clinical symptoms, and dangers and complications occurring during the course of the rigors, or shortly after their cessation. He divided their remissions into two classes; first, remissions where the patient has been able to resume civil life and adapt himself to social conditions; second, remissions where the patient becomes a useful member of the hospital community. Out of 92 male cases the remissions of the first variety numbered 35, or 38%, of the second variety 17, or 18·4%, unimproved 18, or 19·5%, and died, 23, or 25%. The deaths included all cases that have died since treatment both inside and outside the hospital, and malaria had only been directly responsible for 5 of those, or 5·4%. In the 18 female cases there have been 5 remissions of the first variety, or 27·7%; two of the second variety, or 11·1%, 6 unimproved, or 33·3%, and 5 deaths, or 27·7%. Ten cases which had been discharged from the hospital for periods varying from twelve months to four years were present at the meeting and were interviewed by the members and visitors.

Dr. F. T. THORPE read a brief communication on the Meinicke micro-reaction for syphilis, and gave the results of a series of tests which had been carried out by him at Wadsley. He said: "Although the Wassermann still reigns supreme as the diagnostic test for syphilis, there has been a growing tendency in recent years to utilize the technically simpler flocculation reactions, the reliability of which is repeatedly demonstrated by various observers. In fact, a consensus of opinion seems to indicate that a combination of the two reactions is the ideal method whereby the number of false readings is reduced to a minimum. It is certain, however, that the simple flocculation test is better adapted for the systematic examination of a large number of cases, and Meinicke's recent micro-reaction would appear to be the one most admirably suited for this purpose. I have performed Meinicke's test on the blood of all new admissions for the last twelve months, verifying positive and doubtful results by the Wassermann, and there has been a high percentage of agreement—94% in a series of 100 cases. In common with other workers I can confidently recommend this test for routine use, particularly in a mental hospital. The advantages are:

"(1) Venous puncture is unnecessary.

"(2) The technique is simple.

"(3) The results are definite.

"(4) Its reliability compares favourably with the Wassermann.

"One can scarcely over emphasize the necessity for a blood examination of every new admission into a mental hospital, as it is in those early cases of general paralysis with few clinical signs that the best results are obtained from malarial therapy. As Dr. Meinicke so aptly puts it, the blood examination for syphilis should be done with the same regularity as the examination of urine for albumen and sugar."

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A positive reaction was shown under the microscope. The visitors were interested in some excellent slides showing spirochætes in the cortex of a brain of a general paralytic, stained by Jahnel's method, and also some slides showing what appeared to be degenerated spirochætes in a preparation taken from the cortex of a general paralytic who had been treated by malarial therapy, but who had died from abscess of the lung—this preparation was also stained by Jahnel's method.

In conclusion some cinema pictures of cases of dementia præcox showing stereotyped movements were thrown on the screen.

Tea was served at the end of the meeting.

Middleton Hall Private Mental Hospital, Middleton St. George, Durham.

The third Clinical Meeting of the Newcastle-on-Tyne area was held at the above hospital on Wednesday, June 27, 1928. Present, five members. Dr. J. W. Astley-Cooper presided.

Dr. T. C. BARKAS read an interesting paper by Dr. J. W. Astley-Cooper describing two cases of anxiety hysteria with conversion symptoms which were treated and cured in 1917. Two similar cases were being treated at present, in a similar manner, after eight and ten years' neglect respectively, but while very considerable benefit has followed, a cure had not been, and possibly will not be, obtained.

The object of the paper was mainly to show how the resistance to the stimuli causing the patients' symptoms had in the latter cases become so weakened that almost any stimulus, even remotely associated with those originally responsible for the hysterical manifestations, was now capable of bringing these about, and to encourage a discussion on the failure of such resistance and the further treatment of these particular cases.

Dr. M. A. ARCHDALE spoke shortly on the treatment of psycho-neuroses at his out-patient clinic.

Tea was kindly provided by Mrs. Astley-Cooper.

EDUCATIONAL NOTES.

The Tavistock Clinic for Functional Nervous Disorders, 51, *Tavistock Square, W.C.* 1.—Dr. Ira S. Wile, Neuro-psychiatrist in charge of the Children's Department of Mount Sinai Hospital, in New York, will give a Course of five lectures on "The Problem Child," from Monday, July 2, to Friday, July 6, 1928, at 8 p.m. each evening: July 2—General Nature of the Problem; July 3—Physical Problems; July 4—Intellectual Problems; July 5—Emotional Problems; July 6—Social Problems.

Each afternoon, at 5.30 p.m., Dr. Wile will conduct a Demonstration Clinic, with patients. Those who take tickets for the above Lecture Course in advance will receive a ticket available for one specified Demonstration.

As accommodation is limited it is very desirable that application for tickets for the Course should be made without delay. At the same time applicants should state which day they prefer for attendance at the Demonstrations, giving, if possible, a second choice.

Fee (Lecture Course and One Demonstration), one guinea. Tickets should be obtained in advance from the Hon. Lecture Secretary at the Clinic.

ST. AUDRY'S HOSPITAL, MELTON.

OPENING OF THE NEW NURSES' HOME.

On Saturday, May 19, 1928, the New Nurses' Home at St. Audry's Hospital was formally opened by Lady Cranworth in the unavoidable absence of Lady Bristol.

There were present Mr. L. G. Brock, *C.B.*, Chairman of the Board of Control (*vide* p. 516), Mr. F. L. Bland (Chairman), Mr. W. R. Hustler (Vice-Chairman), other

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members of the Hospital Visiting Committee, the Archdeacon of Suffolk (the Ven. J. G. R. Darling), the Rev. Dr. J. Steele (President of the Free Church Council), Dr. W. Brooks Keith (Medical Superintendent), Miss C. W. Simpson (Matron), the Rev. W. S. Furse, the Rev. E. R. Shebbeare, and the Rev. W. J. Robins (Chaplains), Mr. W. J. Longden (Clerk and Steward), Mr. F. Lyon (Foreman of Works), and Mr. Frank Brown (representing the Architects).

Mr. BLAND, who presided, spoke of the two forces which had led to the event of that day. Sad to say they were compelled to face an enlargement of the Hospital, and the economical way most practical was to enable the nurses who had been living in cubicles to reside outside the Hospital in a home where they could be free to find recreation. The beneficial effect to the nurses he need not deal with, because Mr. Brock would speak on that aspect of the matter. The idea of the new Home originated from the late Alderman A. M. Bernard, to whom, more than anyone else,was due a tribute for its successful materilization. (Applause.)

Miss Elizabeth Fison, granddaughter of the Chairman, presented a bouquet to Lady Cranworth, who was then invited by Mr. Brock to perform the opening ceremony. He said, touching on the advances which had been made in the treatment of mental disease, that in the Victorian era the underlying idea was compulsory segregation and detention. The system of imprisonment was ultimately mitigated through the efforts of the great Victorian philanthropists, Lord Shaftesbury and others. In the main, the Lunacy Act of 1890, under which they still worked, had three underlying principles: First, there was the protection of the public against the risk of improper detention; then there was the protection of the patient against cruelty and ill-treatment; and, lastly, the protection of the patients' property. These were valuable objects which had been completely attained, but they were negative objects notwithstanding. They indicated that in the minds of the Parliament of the time the idea still prevailed that mental disease was some kind of mysterious dispensation of Providence, that Providence might, from time to time, relent, but that man could do little or nothing. Fortunately the medical profession were more optimistic than the legislators, and, as the result of much research and patient labour, an advance in thought was made. He believed that that advance was only an instalment of the much greater advance which many of them would live long enough to see. (Applause.)

Lady Cranworth then opened the door of the new building with a silver key of novel design, which will permit it being used as a letter-opener, saying, "I declare the Home open, and wish all good fortune to those who come to it." (Applause.)

A dedicatory prayer was said by the Ven. Archdeacon Darling, and the Benediction was pronounced by the Rev. Dr. Steele, M.A.

A vote of thanks to Lady Cranworth was proposed by Mr. W. R. Hustler and seconded by Mr. W. Wade, which was heartily carried, and Lady Cranworth briefly replied.

Subsequently Lord Cranworth thanked Mr. Brock for his address. The Board of Control was to be congratulated on its new Chairman. A certain touch of humanity ran through his speech, and this was, he thought, the main essential for the post they knew Mr. Brock would adorn. (Applause.)

[The following description of the new building is from the *East Anglian Daily Times*, Monday, May 21, 1928.]

The style of the new Home is Georgian in character. It is devoid of any stonework and all ornamentation, simplicity and good proportion being relied upon to obtain a pleasing effect. Situate behind the Hospital, and adjoining the sports field, the building is entirely self-contained, the general arrangement being a quadrangle formation, except for a small area which has been left for future extension. The block covers an area of about one thousand square yards, and provides accommodation for the matron and fifty-five nurses, a cook and three servants. It is faced with red bricks and roof tiled with Courtrai du Nord glazed pantiles. The main front faces south, and on the ground floor contains the nurses' dining-room, recreation room, reading and study room, and a separate dining-room and sitting-room for the senior or charge nurses, all these having a south aspect. On the west wing the ground floor contains twelve single bedrooms and one double-bedded room, cloakroom, bathroom and lavatories. Five single bedrooms are in the north wing. The east wing contains the kitchen, scullery, pantry, larder, etc., and a sitting-room for cook and maids, and the whole of the first floor provides thirty-two single bedrooms, two double-bedded rooms, matron's bedroom and

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sitting-room, also four bathrooms and lavatory accommodation. Hot water for baths and heating is obtained from calorifiers in the basement, heated by steam from the Hospital boilers. The whole work has been carried out to the designs of Messrs. Brown & Burgess, architects, Ipswich, and the general contractor was Mr. Percy Turner, of Ipswich.

TAVISTOCK SQUARE CLINIC FOR FUNCTIONAL NERVOUS DISORDERS (REPORT FOR 1920–27).

The history of this Clinic begins with the meeting in the drawing-room of Lady Margaret Nicholson in 1919. A few persons with vision and ideals recognized that the lessons learnt from the war neuroses might be usefully extended and applied to a psycho-therapeutic clinic for the alleviation of similar suffering in civil life.

From this small beginning its work has increased, year by year, until in the year 1927 as many as 489 new cases were dealt with; these figures, with a rough average of, say, 10 attendances per patient, give some idea of the enormous amount of valuable work which is being done for the community by this modest establishment in Tavistock Square. This has meant inevitably, as is pointed out in the report, some growth in the direction of institutionalism; such tendency has been kept well in hand. "Informality, the personal touch, simplicity and, above all, individual recognition, constitute valuable adjuncts to psychological treatment. Hence we have not welcomed each step towards institutional organization that our growth has demanded. But we have adhered all the time to the ideal of the consulting-room as opposed to that of the out-patient department, and we have ample evidence that our patients, being what they are, value this feature of our work—a feature which in this country is rarely found."

A comparison with the results of other institutions is obviously difficult, but an interesting analysis of cases is given, which is sufficient to indicate clearly that a high percentage of patients, of all ages, has been treated successfully. The great difficulty of correct diagnosis and classification is recognized in the report, and some of the headings under which the cases are classified leave us in doubt.

NOTES ON THE GENERAL NURSING COUNCIL'S SCHEME OF TRAINING AND EXAMINATIONS FOR MENTAL NURSES (ENGLAND AND WALES).*

(I) *General.*—There are fourteen centres: Birmingham, Bristol, Cardiff or Swansea (alternately), Carlisle, Exeter or Plymouth (alternately), Leeds, Liverpool, London, Manchester, Newcastle, Norwich or Ipswich, Nottingham, Portsmouth, Sheffield.

The written, oral and practical examinations, *should a sufficient demand be shown*, are held at these centres, or others if necessary.

The written examination may be held at any place where not less than twenty-five candidates are to be examined. If the Council are satisfied that, owing to long distance from a centre, special arrangements are desirable, a local centre for the written (not practical) may be found, provided that the expenses of conducting such examinations are defrayed by the hospital authorities.

An examiner at the practical examination is not allowed to examine candidates from a training school at which he or she may be a teacher or lecturer.

(II) *Fees.*—

	£	s.	d.
Preliminary examination, 1st entry	2	2	0
Re-entry, whole or part	1	1	0
Final examination, 1st entry	3	3	0
Re-entry, whole or part	1	11	6
Registration fees:			
For admission to Register	1	1	0
,, retention on Register	0	2	6
Certificate of Registration	0	10	0
Registration fee for additional parts of Register	0	10	6

* Issued with Questionnaire (*vide* p. 500).

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(III) *Expenses.*—Travelling and subsistence expenses are additional. Candidates may have to attend at a distant centre on at least two and possibly three days for each examination.

(IV) *The Preliminary Examination.*—

Full marks for the oral and practical examinations are double those for the written part.

The examination is divided into "subjects," thus: (*a*) Paper on anatomy and physiology, *and* the oral and practical examination in anatomy, physiology and hygiene. (*b*) Paper on hygiene and nursing, *and* the oral and practical examination in nursing.

(V) *Final Examination.*—Questions on sections of the syllabus taken in the preliminary examination are excluded from this examination.

1st Paper on mental and bodily diseases and the oral form one "subject."

2nd Paper on mental nursing *and* the oral and practical examination in mental nursing form another "subject."

(VI) *Re-Examination.*—A candidate who fails to satisfy the Examiners is required to:—(*a*) re-enter for all the sections of the "subject" in which she has failed to satisfy the Examiners; (*b*) re-enter also for all the sections of any "subject" in which she has failed to obtain sufficient marks to entitle her to a "credit."

(VII) *Training.*—The course of training follows very closely that laid down by the R.M.P.A., with a minimum of 3 years' duration.

"General Duties of Mental Nurses, etc.," and "First Aid" are excluded from the preliminary examination, but a greater knowledge of hygiene is expected.

A more extensive knowledge of practical nursing procedure is also demanded for the preliminary examination.

The preliminary course consists of 16 lectures on anatomy and physiology, 6 on hygiene, and 12 on the theory and practice of nursing. Minimum attendances are two-thirds of these.

Before the final examination two further courses of 20 lectures are to be given, of which 15 in each course must be attended.

Six months' training in bedside nursing, and class instruction in nursing duties, including first aid and invalid cooking, must be taken some time during the three years' training.

NEW YEAR'S HONOURS (*Omitted from April number*).

O.B.E. (*Civil*).

Miss MARY MITCHELL THORBURN, R.R.C., Matron, Horton Mental Hospital, Epsom.

M.B.E. (*Civil*).

Miss JANE MOTTERSHEAD, Senior Assistant Matron, Cheshire County Mental Hospital, Macclesfield.

OBITUARY.

REGINALD WICKHAM PRENTICE, L.M.S.S.A.

Ordinary Member since 1908.

The late R. W. PRENTICE, of Ringwood, Hants, had, for the last thirty-four years, practised as a specialist in nervous diseases; he had a wonderful power of understanding the neurasthenic and borderland cases, and by his sympathy and courage did much to restore the mentally broken in health. Sir George Savage and Sir David Ferrier were great believers in Prentice's methods of treatment and have spoken most highly of his success.

Prentice was the son of the Rev. Henry Prentice, and was born at Holford Vicarage, Somerset; he was educated at All Hallows, Honiton, and at King's College Hospital.

He was a keen sportsman, had travelled all over the world, often in company with one of his patients, and since he settled first at Alresford and lastly at Ringwood had taken a leading part in all local and parish affairs, having been both district councillor and churchwarden. He died at Ringwood on January 17, 1928.

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NOTICES BY THE REGISTRAR.

The Bronze Medal and Prize for 1929.

Dissertations for the Association's Bronze Medal and Prize must be delivered to the Registrar by April 30, 1929.

Divisional Prizes for 1928.

Papers certified as eligible for this competition must be forwarded to the Registrar not later than April 30, 1929 (*vide* new regulation, *Journ. Ment. Sci.*, October, 1927, p. 775).

Circulars and all information regarding the above competitions may be obtained on application to the Registrar, St. Andrew's Hospital, Northampton.

Certificate in Psychological Medicine.

1928, NORMAN MOULSON.

NOTICES BY THE GENERAL SECRETARY.

Died.

GEORGE EDWARD SHUTTLEWORTH, May 28, 1928.

Meetings.

Special Meeting of the Association.—July 3, 1928, 5 p.m., British Medical Association House, Tavistock Square, London, W.C. 1.

Annual General Meeting.—July 10, 11, 12, 13, 1928, at West Riding Mental Hospital, Wakefield.

South-Western Division.—October 26, 1928.

Northern and Midland Division.—October 25, 1928, at St. Luke's Hospital, Middlesbrough.

Irish Division.—July 5, 1928, at the District Mental Hospital, Mullingar.

Infectious Diseases in Mental Hospital Sub-Committee.—July 10, 1928, at West Riding Mental Hospital, Wakefield.

Council's State Registration of Nurses Committee.

Members.—Prof. G. M. ROBERTSON (Chairman), Sir FREDERICK WILLIS, Drs. W. M. BUCHANAN (Secretary), R. R. LEEPER, M. J. NOLAN, D. RAMBAUT, N. RAW, F. R. P. TAYLOR.

Changes of Address.

Changes of address to be communicated to the General Secretary, Springfield Mental Hospital, Nr. Tooting, S.W. 17, and to Messrs. Adlard & Son, Ltd.

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[*Supplement to the 'Journal of Mental Science,' July, 1928.*]

MEMORANDUM BY THE PARLIAMENTARY COMMITTEE OF THE ROYAL MEDICO-PSYCHOLOGICAL ASSOCIATION ON THE REPORT OF THE ROYAL COMMISSION ON LUNACY AND MENTAL DISORDER.*

[*Throughout this memorandum the text follows that of the Report. The Roman numerals in the margin refer to the sections of the Summary of Conclusions and Recommendations beginning on p. 156 of the Report. The numbers in brackets refer to the paragraphs in the body of the Report, e. g.* (*R. para.* 1).]

Introduction.

There is reason for satisfaction on finding that a majority of the Recommendations made by the Association to the Commission are embodied in the Report. This Committee recognizes that the Report has been most carefully prepared, and that it provides a valuable contribution to the study of those problems in psychiatry of which the Association has had so long an experience. It is largely as a result of this experience that this Committee finds itself in conflict with certain of the Recommendations of the Commission, and considers portions of the Report differ widely from the policy of the Association.

The Voluntary Case (R. para. 106.)

The extension of the voluntary principle to public mental hospitals, recommended by the Association, is approved by the Commission under certain safeguards. The Report states that "the IV. voluntary patient should be required to make a written application for treatment," but the authority to which the application should be addressed is not specified. This Committee considers that written application should be made to the physician in charge of the hospital or house the patient desires to enter—a procedure outlined in Recommendation 10 of the Association.

This Committee would prefer to see the term "voluntary patient" take the place of "voluntary boarder" as recommended by the Association.

* Presented to the Association in Annual General Meeting assembled at Wakefield, July 11, 1928. Approved by the Council, July 10, 1928.

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Notification.—The Committee agrees that some form of notification to the Board of Control should be sent immediately a voluntary patient is admitted to mental institutions which also receive involuntary cases. It also agrees that it will be necessary to require mental institutions to keep a register of voluntary patients, and that a return of the numbers of voluntary patients received might, from time to time, be made to the Board of Control for statistical purposes.

Visitations.—The suggestion in the Report that a duty be laid upon the Board of Control to visit voluntary patients individually is not approved by this Committee. If voluntary patients are to be received in general hospitals, as the Commission suggests, it is possible that the management of such hospitals will not consent either to undertake notification or to allow the individual visitation of patients by the Board of Control. (See also "Visitation," below.)

Cessation of volition.—The Report (R. para. 106) recommends that on cessation of volition the voluntary patient shall, within one month, be dealt with as an involuntary patient, which is contrary to the Recommendation of the Association.

The division in the Report of patients into two classes, (*a*) Voluntary and (*b*) Involuntary, is not in accord with the Recommendations of the Association. The omission of the Commission to provide separately for the admission of the case that cannot be said to be unwilling yet is unable to make written application for voluntary treatment owing to stupor, confusion or clouding of consciousness, is, in the opinion of this Committee, a serious matter for the future progress of the treatment of early mental disease.

This Committee urges the Association to make every effort to obtain the recognition of the non-volitional case. It is of the opinion that these cases should not be dealt with under a judicial order, but admitted to approved places on the written application of a responsible relative or guardian, supported by one, or possibly two medical recommendations. This Committee is of opinion that such an authority should last for the first six months of illness, and should be renewable up to a maximum of two years. The admission of such "non-volitional" patients should be notified immediately to the Board of Control.

It is this procedure that, in the opinion of this Committee, should first be applied to the voluntary patient on cessation of volition.

The Involuntary Case (R. para. 107) and Provisional Treatment Order.

V. The proposed Provisional Order of the Commission necessitates an order by a Justice, who must see the patient. It thus perpetuates what is felt to be the chief element in the stigma associated with the present Reception Order. Indeed, the proposed Provisional Treatment Order only lasts a month, when the judicial authority has again to intervene and see the patient. The second

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signature authorizes treatment for five months, after which treatment can only be continued by a further judicial visit and full certification.

This Committee feels that the multiplication of judicial interventions, in the proposed Provisional Treatment Order, will definitely hinder and even prevent early treatment. In practice, the necessity for three separate visits to each patient will be difficult to carry out, and may well produce a state of chaos in the administration of large hospitals.

There are further criticisms of the Provisional Treatment Order.

The Committee does not think it desirable that a " disclosure of any property owned by the patient " should appear in the statement of particulars in the petition which initiates the procedure.

It is thought that notification of property should be postponed until after admission, when the necessary information could be sent to the Board of Control.

The delay of seven days allowed to the Justice on receipt of the documents initiating the Provisional Order will result in a greatly extended use of the Emergency Order which is felt to be undesirable in the interests of the medical profession.

The Committee considers that the Justice should be allowed to use his discretion as to whether he should or should not see the patient. Cases do occur in which the visit of a Justice is undesirable on medical grounds and for this reason the existing Prejudicial Notice should be retained. The Parliamentary Committee is unanimous in its view that the Provisional Treatment Order should apply only to early unwilling or hostile patients, and that the Order should if necessary be renewed at intervals of six months up to a maximum of two years, on the authority of a judicial signature at each date of renewal.

The Reception Order (R. para. 108).

The Commission again recommends that the Petition addressed to a judicial authority should contain a disclosure of any property owned by the patient. VI (*e*)

As in the Provisional Treatment Order this Committee is of the opinion that no disclosure of property should be required to be made on the admission documents, but that all questions of property should be dealt with after admission.

The Report recommends that in cases where the " patient has not been the subject of a Provisional Treatment Order, the medical certificates should also state that the patient is not likely to recover within the period available under a Provisional Treatment Order and that a Reception Order on full certification is necessary." VI (*a*).

In the opinion of this Committee such an addition to the medical certificate is undesirable. It would force the certifying physician into placing on record an unfavourable prognosis of the case, and would tend to discourage relatives and friends. Prognosis in mental disorder is admittedly difficult and uncertain, and were such a statement required, it would mean that the Reception Order would

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never be used at the onset of mental illness, even in those cases which might reasonably be considered suitable for full certification. It is suggested that the certificate might be required to state that the patient is not willing to undergo treatment as a voluntary patient, and is ineligible for the procedure recommended by the Association for a non-volitional case.

VI (*b*). The Report of the Commission approves of the recommendation of the Association that the certifying practitioners should be entitled to consult together.

It is not made clear in the Report what is the precise meaning of the term "independent medical practitioner."

It appears that one of the certificates may be given by "the medical superintendent of a public mental hospital or other medical officer in the public service."

It is not specifically stated whether the permission to certify will extend to the superintendent of the hospital in which a patient may already be under treatment.

VI (*d*). The Report deprecates a "formal hearing of the case" before a judicial authority, yet recommends (R. para. 109) that the judicial authority may see the medical practitioners concerned, and may inform the patient if he thinks fit of the "allegations" made. This Committee feels that such proceedings should only be conducted with circumspection, and avoided whenever possible, and that constant regard should be had to the probable ill-effects of such inquiries.

Emergency Procedure (R. para. 111).

VII. The Committee notes that the Report says nothing as to the transmission of copies of emergency documents to the Central Authority.

Should this procedure be adopted, it is considered that the Board of Control should be notified of all admissions to treatment on such orders, and that a copy of the documents should be sent to the Board. These steps are necessary to ensure the permanent record of the authority for detention during the seven days for which the order lasts.

The Judicial Authority (R. para. 109).

VIII. In the event of a judicial order being inevitable, this Committee notes that the Report approves of the Recommendation made by the Association that there should be a special selection of magistrates most suited to undertake the duties of the judicial authority. It is very desirable that a sufficient number of magistrates should be appointed to administer any new Act.

This Committee is of opinion that such inquiries and investigations as are outlined in the Report, involving the presence of the certifying practitioner, and possibly of the patient, might have most undesirable effects upon the mental state of certain kinds of patients. This Committee, in the interest of patients, strongly urges the Association to endeavour to free the admission of early cases from such legal technicalities.

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The Medical Practitioner (R. para. 90).

IX. The Association recommended that the protection afforded to practitioners by Section 330 of the Lunacy Act, 1890, should be extended to stay proceedings at an earlier stage than at present, and that they should receive the same immunity as is given to witnesses in a court of law.

The Commission has not found itself able to agree to the witness status recommended by the Association. The Royal Commission suggests that Section 330 (1) of the Act should be amended so as to provide that no person indicated therein shall be liable to any civil or criminal proceedings "unless such person has acted in bad faith or without reasonable care."

"Section 330 (2) should be amended so as to enact that proceedings shall upon summary application to the High Court, or a Judge thereof, be stayed upon such terms as to costs and otherwise as the Court or Judge may think fit, unless the Court or Judge is satisfied that there is substantial ground for alleging that such act was done in bad faith or without reasonable care" (R. para. 90). This Committee is of opinion that this procedure improves the present position, but still would not provide adequate protection to certifying physicians. The proposal put forward by the Lunacy Committee of the British Medical Association that the evidence supporting the plaintiff in such actions should be scrutinized by an impartial medical assessor, is thought to provide an important additional safeguard.

This Committee considers that the Association should give its support to this proposal, and urge that in proceedings instituted against practitioners alleging want of care, and *mala fides* in certifying, the Judge should have the assistance of a competent independent medical opinion in reviewing the evidence supporting the case of the plaintiff.

The Committee heartily endorses the remarks of the Report recommending that the teaching of psychiatry should receive even more attention than at present in the medical curriculum, and that further provision should be made for post-graduate instruction (R. para. 80). The Committee is of opinion that the increase in teaching facilities is chiefly necessary from the point of view of the treatment of mental disease and problems concerning research.

The Committee does not give its entire support to the proposal in the Report (R. para. 81) that local authorities might be empowered to appoint a *single* certifying physician for their area. It suggests that a panel of practitioners with special knowledge of mental disease, and approved by the Central Authority, or local authority as the case might be, should be empowered to give one of the necessary certificates, where a Reception Order was in question.

Supplementary Amendments.

X. The Committee approves of the recommendation made by the Commission that the provisions regarding inquisition should be simplified in any new legislation (R. para. 72).

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With regard to nomenclature your Committee is of opinion that the Association should adhere to the terms used in its Recommendation No. 37 and should not associate itself with the nomenclature suggested by the British Medical Association, always excepting those terms which are common to both (R. para. 91).

Detention.

XI. Your Committee notes with satisfaction that no case of improper detention was established before the Commission. The Report states (R. para. 167):

"We think it proper to record that in none of the cases which were investigated by us were we satisfied on the evidence that improper detention had been suffered, while the general evidence which we received on this subject was reassuring. In the result we were satisfied that in practice instances of sane persons being wrongly certified or improperly detained must be of the rarest occurrence."

While this statement must be reassuring to the public and satisfactory to the Association, it is felt that so definite a finding is hard to reconcile with the recommendations of the Commission requiring repeated judicial interviews with patients suffering from early mental disease. It would appear that the Report goes out of its way to prevent a state of affairs, *i.e.*, improper certification and detention, which it finds not to exist under the present procedure. Your Committee is of the opinion that the real protection of the patient should lie in the enlarged and strengthened Central Authority (Board of Control) to which all notifications of non-volitional and unwilling patients undergoing treatment would be sent.

Documents (R. paras. 170–172).

XII. The Committee approves of the proposed abolition of the month-end reports in private cases.

The Association in its Recommendation 42 suggested that the "Continuation Report should in future be countersigned by a Judicial authority, or two members of the Visiting Committee."

The Report of the Commission does not embrace this proposal. An alternative Continuation Certificate is suggested when the patient becomes convalescent. The medical officer would be required to certify "that the patient has not fully recovered and that his continued detention is necessary and proper for his own welfare or the public safety." In view of this alternative the Committee feels that Recommendation 42 of the Association should not be pressed.

Visitation (R. paras. 151 and 173).

XIII (*i*). The Report suggests that visits from the Board of Control should be made to each institution and to patients in single care at least twice a year.

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Your Committee considers that there are no grounds for increasing the yearly visits of the Board from one to two in view of the finding that no case of improper detention was established in the evidence given to the Commission.

Local Visiting Authorities (R. para. 174).

In the main this Committee is in agreement with the suggestions made in the Report concerning visitation by local authorities, but it is felt that there are members of the Association who will regret the proposal that justices appointed by the County should visit those licensed houses now in the Metropolitan area, which at present are visited solely by the Board of Control. In the same way there is some objection to the proposed visitation of Registered Hospitals by the medical visitor to the justices of the area, for the purpose of seeing newly admitted cases and their documents. It is felt by some members of the Committee that for every private patient who likes visitation, there are several who dislike it, often intensely. XI

The Committee considers that the visitations suggested in the Report should be obligatory only for patients detained on a Reception Order, and that power should be given to the Board at their discretion to visit voluntary patients and the non-volitional patients but without obligation.

It is felt that the Commission had not foreseen the large increase that is likely to take place in the number of voluntary patients. It is hoped that in the class of case termed by the Association "non-volitional," some form of authority for admission without judicial certification will be available. This increase of numbers of patients whose term of residence is likely to be short would throw on the Board an impossible burden of travelling and visitation were the suggestions of the Report adopted.

After-Care (R. paras. 158 and 178).

The Committee approve of the recommendations under this heading, which accord closely to the recommendations of the Association. XV

Discharge (R. para. 179).

Recommendation 48 of the Association is partly accepted in the Report. The duties imposed by Section 83 of the present Act on managers of registered hospitals, licensed houses, or those in charge of single patients to notify recovery to the appropriate person or authority, are also to be laid upon the medical superintendent of a public hospital, save that he is to notify the Visiting Committee and not the Petitioner. XV

The Committee regrets that the Recommendation 48 of the Association was not entirely accepted, and would urge that the procedure for discharge on recovery should be the same for both private and rate-aided patients.

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It is felt that two members of the Board of Control should be able to discharge a rate-aided patient as in the case of a private patient, and further that many members of the Association desire to make it possible for recovered rate-aided patients to be discharged by medical superintendents in consultation with relatives, without requiring an administrative action on the part of the Committees. The medical superintendent should certainly be authorized to allow patients out " on trial."

The Report suggests that too exclusive a power is at present vested in the Petitioner in respect of the discharge of a private patient.

The Commission suggests that the relatives and friends of private patients should also have the right to apply for the discharge of the patient.

This Committee sympathizes with the desire of the Commission to spread the responsibilities of the petitioner, but would point out that there are practical difficulties in the way of allowing any friend or any relative to make indiscriminate applications for discharge. The necessity for the treatment of a patient in a mental hospital is unfortunately not infrequently a matter for family differences. The Committee is therefore of opinion that the term " relatives and friends " used in the Report in this connection requires further definition and delimitation.

Discharge against Medical Advice (R. para. 179).

XVI (*b*) *ii.* The Report recommends that when the lay authority of a public mental hospital desire to discharge a patient against medical advice this should be done by the Visiting Committee as a whole.

This Committee would point out that the words " Visiting Committee as a whole " envisage impossible situations and require modification. For example, the Mental Hospital Committee may be the whole County Council, as in London. Again, the quorum of members of a visiting committee may be only three in number.

It is considered that the discharge of a patient against the advice of the medical officer should be done by the Visiting Committee of the hospital concerned when at least two-thirds of the members are present.

Rights of Relatives (R. para. 181).

The Committee approves of the suggestion that a pamphlet be prepared setting out the rights of the patient and the relatives and friends in connection with certification, detention and discharge, and other suitable information.

The Introduction to the Report of the Commission would supply all necessary information to friends, and provide an excellent *résumé* of existing law and practice. It is suggested that the Introduction might be edited as a small document and sold for a nominal sum by H.M. Stationery Office.

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CARE (R. para. 182).

XVIII. This Committee notes with satisfaction that the Commission found that the patients are, on the whole, well cared for, and that the wholesale allegations of neglect and ill-treatment which are sometimes made against the present system are unjustified.

CORRESPONDENCE (R. para. 188).

XIX. The Commission recommend that notices displaying the rights of patients in the matter of correspondence should be posted in the wards of all mental hospitals. This Committee feels that it is not always desirable for notices to be placed in wards, and suggests that such notices should be posted in some suitable prominent place to which every patient has access.

THE MEDICAL SUPERINTENDENT (R. para. 193).

XX. The Report suggests that medical superintendents should be relieved so far as is possible of administrative duties, so that more time will be available for purely medical questions. It is felt that there could be no objection to this recommendation, provided that the paramount authority of the superintendent remains unaltered.

The Report (para. 194) suggests that local authorities should be required to advertise for candidates to the post of Medical Superintendent, and should consult with the Board of Control before making such appointments. This Committee would point out that some areas have a mental hospital medical service, from which all appointments to the post of superintendent are made. It is thought that in such cases the local authority should not be required to advertise the vacancies, which are ordinarily filled up by the promotion of a physician from the junior ranks. Further, the Committee considers that there are many objections to the consultation with the Board of Control before making appointments to the post of medical superintendent. It is felt that local authorities of public mental hospitals and governing bodies of registered hospitals should have complete freedom in making such appointments.

The Commission (R. para. 195) recommends that retirement from the post of medical superintendent should be compulsory at the age of 60. The Committee is of opinion that this age is unnecessarily early, and suggests that the Association should urge that 65 should be made the retiring age, and that there should be a possible extension of service in special circumstances.

NURSING STAFF (R. paras. 200, 201 and 202).

XXII. The Commission recommends that a second grade of nurse be recruited, one unable to pass the requisite examinations, who should be given adequate remuneration and status, and classified as attendants or charge attendants in contradistinction to qualified nurses (R. para. 202). Your Committee believes that the Association will not approve of a permanent grade of unqualified nurse.

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Your Committee urges that such a grade should not be used in actual nursing, though there seems to be no reason why such assistance should not be obtained for occupational and other special departments. The Committee feels that the establishment of two grades of nurses is contrary to the aims of the Association, but that complete freedom should be given to each hospital to obtain suitable assistance in the performance of duties which do not involve the actual nursing of patients. Your Committee approves of the suggestion of the Commission that the employment of female nurses in certain male wards of mental hospitals should become more general.

Ill-Usage (R. para. 209).

XXIII. The Committee feels that the Association will like to place on record its satisfaction with the remarks in the Report concerning ill-usage. The Report says (R. para. 209):

"Our considered opinion is that ill-usage is not deliberately or systematically practised in mental institutions." The Commission pay a tribute "to the skill, devotion and self-sacrifice of the nursing staffs." Such passages reflect the result of the policy of the Association, which has carried out the training and examination of mental nurses for many years.

Research (R. para. 250).

XXVIII. The proposals of the Commission concerning research harmonize very closely with the Recommendations of the Association. It is suggested that every hospital be equipped for routine examinations, and that a central laboratory should serve a county area or group of counties.

The Report goes on to propose that the central laboratories be supervised, and their work to some extent directed by the Board of Control.

This proposal is regretted by the Parliamentary Committee. It is felt that research work requires absolute freedom, and in a sense is incapable of direction, however sympathetic. It is also felt that such supervision would prove a possible source of friction between the local authorities and the Central Authority. The Committee considers that the work of the central laboratories should be controlled entirely by their directors.

Care of Patients' Property (R. para. 233).

XXIX. It is felt that the Association will agree with the opinion of the Commission that the Board of Control should be apprised of any property in the hands of persons detained under care.

But in this connection it is felt that attention should once again be drawn to the undesirable suggestion made in the Report that a disclosure of the amount of property owned by the patient should be made in the statement of particulars accompanying all petitions for a Provisional Treatment Order or Reception Order.

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Licensed Houses (R. paras. 234–244).

The Committee feels unable to make any comments on the section dealing with Licensed Houses. It considers that the Association as a whole desires the continuance of Licensed Houses, and that they fulfil satisfactorily a constant public demand. This being so the Committee could see no objection to the additional safeguards proposed in the Report (R. para. 244). XXX-XXX

Local Authorities (R. paras. 247, 255).

The Committee thinks that these paragraphs adhere closely to the Recommendations and views of the Association and offers no comments. XXXIV.

Central Authorities (R. para. 258).

The Committee finds that the suggestions of the Commission concerning the Master's Office and the Ministry of Health are in close accord with the views of the Association. XXXVII.

Especially satisfactory is the view of the Commission that the Board of Control should retain its independent existence, and should not lose its identity by being merged administratively into the Ministry of Health. This Committee has very different views on the suggestions made by the Commission with regard to the proposed organization of the Board of Control.

Board of Control (R. para. 265).

This Committee points out that the Association will need to examine very carefully the proposals of the Commission in regard to the powers that are suggested for the Board in respect of the management of mental hospitals. It agrees that the powers of the Board should be strengthened in order to deal effectively with local authorities who neglect their duties toward the insane and mentally defective. But it considers that the Association should resist any attempt made to require the Board of Control to approve, alter, or add to rules for the domestic conduct of individual hospitals. XXXIX.

The Committee would point out that under the proposed scheme or reorganization for the Board as made by the Commission (see below) the senior Commissioners become stationary, and could not give personal attention to such matters. Such duties would therefore fall to subordinate officers to carry out—a state of affairs likely to have lamentable results for both hospitals and the Board.

Reorganization of the Board (R. para. 266).

The Parliamentary Committee would impress upon the Association that the proposals of the Commission regarding the reorganization of the Board of Control do not meet the Recommendation 17 of the Association. It would insist on the opinion of the Association that the medical *personnel* of the Board should be increased to XL.

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10 or 12 members, that such members of the Board should be of high professional attainments, and that the Board should be termed the Board of Mental Health. Your Committee can see no objection to the appointment of a suitable number of Deputy Commissioners, who would be available to relieve the Commissioners of travelling duties in connection with minor occurrences. But it is pointed out that the proposed appointment of 15 Assistant Commissioners to support a stationary Board of 4 or 5 members, of whom only 2 would be medical, is contrary to the views of the Association.

It is obvious to this Committee that the emoluments suggested for the Assistant Commissioners could only attract inexperienced junior candidates. It is further pointed out that the duties outlined for the performance of the Assistant Commissioners are such as can only be performed by persons of much wider experience.

(Signed) NATHAN RAW, *Chairman.*
G. W. B. JAMES, *Hon. Secretary.*

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STUDY TOUR AND POST-GRADUATE EDUCATIONAL INFORMATION SUB-COMMITTEE.

Tour of Dutch Mental Hospitals and Clinics.

This Sub-Committee, through the kindness of Dr. Stuurman, the Secretary of the Dutch Association for Psychiatry and Neurology, is arranging a tour of Dutch Mental Hospitals and Clinics in October.

The journey, which will probably occupy seven days from London, will include visits to the Mental Hospitals of Rotterdam, Haarlem and Utrecht, and to others at Apeldoorn and Deventer, as well as to the Clinic at Utrecht University.

An approximate estimate of the cost, with first-class hotel accommodation, is about £12 second-class travel, and £14 first-class travel.

Members of the Association who intend to take this tour are requested to communicate with the Hon. Secretary not later than August 12 at the address below, stating which weeks in October are likely to be convenient to them.

A. Edward Evans,
Hon. Sec.

3, Rotherwick Court,
Golders Green,
London, N.W. 11.

The following Mental Hospital Reports for the year 1926–27 have been received:

Glasgow Royal.
Middlesbrough County and Borough.
Plymouth.

Also the following Reports, Reprints and Journals:

Bloomingdale Hospital, New York: Annual Report, 1927.
The Mental After-Care Association's Annual Report, 1927.
Observations on Nasal and Oral Focal Sepsis in the Ætiology of Gastro-Intestinal and Pulmonary Infective Diseases, by *Drs. P. Watson-Williams and F. A. Pickworth.*
National Society for Lunacy Reform: Annual Report, 1926.
The Royal Eastern Counties' Institution: Annual Report, 1927.
Mental Hospitals of Bihar and Orissa, India: Report for the years 1924–1926.
Brain, vol. l, Parts 3 and 4.
The Craig Colony for Epileptics: Annual Report, 1927.

Books received for review:

Index Psycho-analyticus, 1893–1926, by *Dr. John Rickman.*
Understanding Human Nature, by *Dr. Alfred Adler.*
Clinical Examination of the Nervous System, by *Prof. G. H. Monrad-Krohn.*
Technic of Child Analysis, by *Anna Freud.*
The Psychology of Abnormal People, by *Dr. John J. B. Morgan.*
Les Rapports des Langages Néologique et des Idées Délirantes en Médecine Mentale, par *Dr. G. Teulié.*

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Alexander Walk, M.D.

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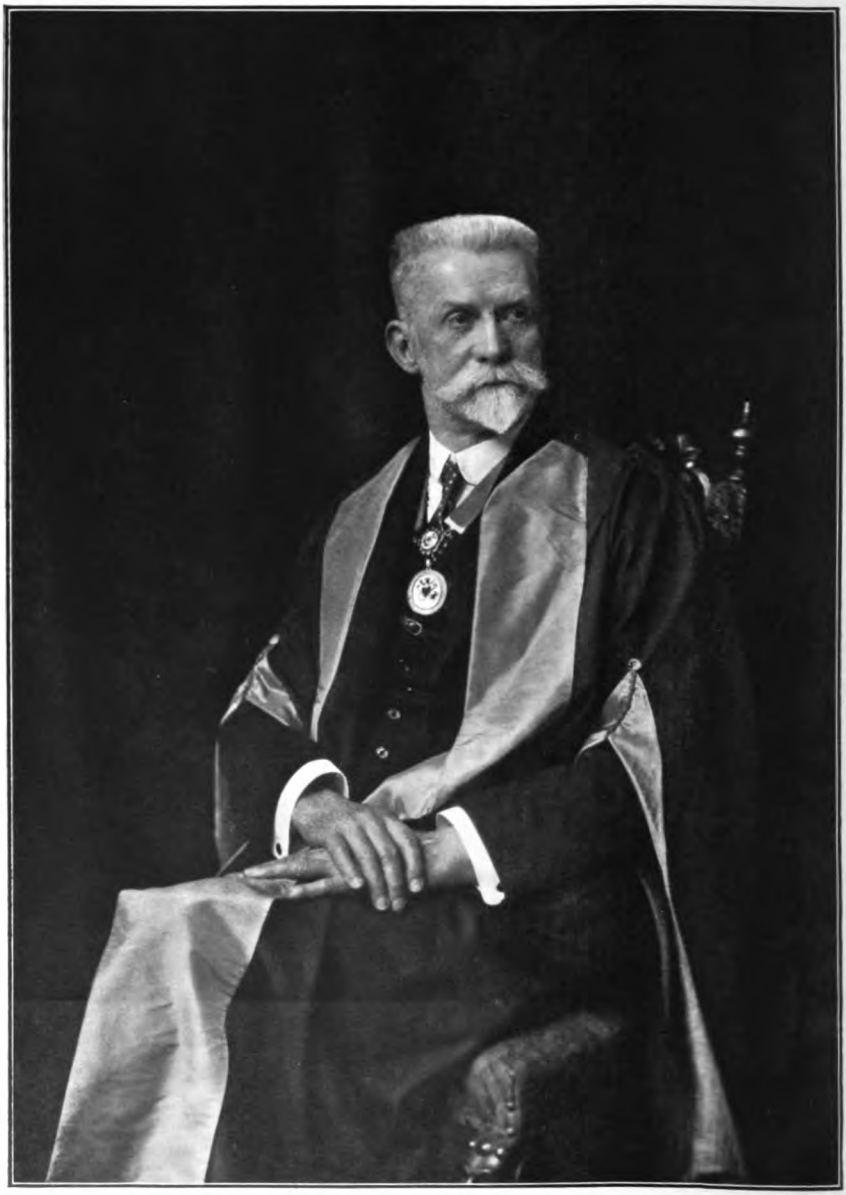

JOSEPH SHAW BOLTON, Esq., D.Sc., M.D., F.R.C.P.

President,

1928–29.

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THE
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Part I.—Original Articles.

THE EVOLUTION OF A MENTAL HOSPITAL—WAKEFIELD, 1818–1928.

THE PRESIDENTIAL ADDRESS AT THE EIGHTY-SEVENTH ANNUAL MEETING OF THE ROYAL MEDICO-PSYCHOLOGICAL ASSOCIATION HELD AT THE WEST RIDING MENTAL HOSPITAL, WAKEFIELD, JULY 11, 1928.

By JOSEPH SHAW BOLTON, D.Sc., M.D., F.R.C.P.

IT is nineteen years since Wakefield Mental Hospital had the privilege of providing a president for the Royal Medico-Psychological Association, and the centenary of the opening of the hospital occurred in the middle of this period, and in the same month and year as the Armistice. It is not, therefore, a matter for surprise that such an important event passed unnoticed, and the present occasion seems to me to be eminently suitable for a belated description of the development of the hospital during the first century of its existence.

I have examined its records carefully and critically, and I hope sympathetically. They contain much that is new to me, and much that will probably be of interest to my audience. They make it quite clear that Wakefield, more than many asylums, has been a mother of asylums, and has attained a distinction accorded to few. At the same time I do not lay any claim to priority in specific details of knowledge or treatment, though I think we may justly boast that at some periods during upwards of a century the administration of the asylum has displayed a really remarkable efficiency which is worthy of record here.

My chief difficulty in referring to the administration of this hospital during the century lies not in a paucity of interesting matter, but in the fact that I may at times appear to criticize my

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predecessors. When I undertook office here as the eighth director I followed Sir William Ellis, later of Hanwell Asylum (of whose work I shall have a good deal to say), Dr. Cleaton, later a Commissioner in Lunacy, Sir James Crichton-Browne, later a Lord Chancellor's Visitor, and my immediate predecessor, Prof. W. Bevan-Lewis, one of the greatest of neurologists. Of the rest, Dr. Corsellis administered the asylum with success for 22 years during its period of most rapid growth as the only West Riding Asylum and during the great cholera epidemic; Dr. Alderson died after a very short period of office; and any hospital might be congratulated on the possession of such a director and scientific investigator as Dr. Herbert Major. Wakefield Asylum has been very fortunate in its directors, and still more so in being under the control of committees capable of selecting them.

During the second decade of the nineteenth century, following on the publication, in 1813, of Samuel Tuke's *Description of the Retreat, an Institution near York for Insane Persons of the Society of Friends*, the visiting magistrates of the proposed Wakefield Asylum requested Mr. Tuke to prepare instructions for the architects proposing to submit competing designs. The instructions begin, "*For the information of those who are inclined to deliver plans for the Pauper Lunatic Asylum, to be erected at Wakefield, it is stated, that the House is to be adapted to the accommodation of* 150 *Patients, an equal number of each sex.*" The plans accepted were those of Watson & Pritchett, architects, of York, who submitted them in February, 1815. In the same year Samuel Tuke published *Practical Hints on the Construction and Economy of Pauper Lunatic Asylums*, and this was regarded as so valuable that it was re-published as an introduction to the plans and descriptions of the architects when these were published by private subscription in 1819, after Wakefield Asylum had been opened.

Largely through the influence of Mr. Godfrey Higgins, the Chairman of the visiting justices, Dr. (afterwards Sir William) W. C. Ellis, a member of the Royal College of Surgeons practising in Hull and who for some time had been officially connected with Dr. Alderson's private asylum near Hull, was selected as the first director. Probably the reasons influencing the selection of Dr. Ellis were his deeply religious temperament, his humanity, and his known interest in the care of the insane, which is evidenced by the public letter he wrote to Thomas Thompson, Esq., M.P., suggesting remedies for the appalling abuses discovered during the Parliamentary investigation of 1814, with its "horrible and disgusting disclosures." This was an inquiry into the administration of Bethlem, and in particular into the case of James Norris, who, when

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discovered by the philanthropist Edward Wakefield, had been for nine years in chains.

Dr. Ellis obtained the degree of Doctor of Medicine and entered on his duties as director of Wakefield Asylum in November, 1818, occupying the post with distinction until his transfer to the new asylum at Hanwell in 1831. From the commencement of his administration Dr. Ellis took the attitude of paramount authority under the visiting justices, and, in spite of almost unprecedented calumny during his early years of office, consistently ignored, he performed his duties zealously, and with regard solely to the benefit of the patients of the asylum.

I have no copy of the original rules available, but those printed in 1853 still appear to contain the principles on which the hospital in the early years was managed.

The director and matron were man and wife, and their respective powers are indicated in the following rules:

> "14. The Superintendent shall be authorized from time to time, to hire, suspend, or dismiss all male servants of the Institution, and also the Housekeeper; and the Matron shall in like manner be authorized to hire, suspend, or dismiss all other female servants, subject in every case to the approval of the Superintendent; and the hiring, suspension, and dismissal of all Servants shall be subject to the approval and confirmation of the Committee of Visitors at their next meeting, to which meeting such hiring, suspension, or dismissal shall be regularly reported."
>
> "52. She (the Matron) shall visit every female ward, and see every female patient at least once a day, and occasionally at night; and shall attend to the sick male patients when necessary, and shall superintend the female servants and nurses and shall particularly look to the general and moral management of the female patients."

The director was thus the superior officer, and he also acted as "apothecary, surgeon, steward and treasurer." In 1866 the matron's power under rule 14 is removed, and the requirement to nurse sick male patients is deleted.

Two visiting physicians and two visiting surgeons were appointed at the opening of the asylum, and apparently even in 1853 the former were concerned with the mental as well as the physical state of the patients:

> "63. They shall consult and advise with the Medical Officer relative to the treatment, diet, and general management of the patients; . . ."
>
> "66. They shall also insert in such Journal, the name of

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every patient whom they would recommend to be discharged as cured."

In 1866 the peculiar powers of the consulting physicians are taken from them. One physician only is allowed for. He only attends when requested and only visits the asylum if required. If no physician is appointed the medical superintendent can call in to his assistance any physician practising in the neighbourhood. Rules for assistant medical officers and a dispenser appear, instead of the old rules for an unqualified house surgeon and apothecary.

One or more visiting physicians existed from 1818–1898, and one or more visiting surgeons from 1818–1853.

The modern custom is expressed in the following rule:

"39. In any case of difficulty or danger he (the Medical Director) may call to his aid in consultation any registered medical practitioner."

It is thus clear that while at the opening of the asylum the visiting staff were appointed as if to an institution like a workhouse, with a master and matron, the medical as well as the adminstrative control gradually passed from the visiting staff to the director and his assistants.

Even as early as 1821, presumably as the result of their experience of the difficulties caused by dual treatment of the patients, the visiting justices much increased the powers of the director and decreased those of the physicians.

It seems reasonable to suppose that in general the visiting staff played the game and worked in harmony with the resident staff. The veteran Dr. Wright, who wrote a valuable report on the cholera epidemic of 1849, had actually been visiting physician to the asylum for 64 years when he died in 1898, and there is no record of any dispute or difficulty during his tenure of office.

At the same time Dr. Wright seems to have considered his position much superior to that of the director, as in his *Reports on Cholera* (1850) he remarks: "1831. Dr. and Mrs. Ellis resigned Superintendency, Dr. and Mrs. Corsellis appointed"; and, when referring to the recovery-rate of 44%, a proportion which had varied little during the progress of the asylum, he states, "The simple record of figures which is here quoted is the fittest and best testimony I can offer to the services and management of Dr. and Mrs. Corsellis, to whom, as resident superintendents of the asylum, belong the credit and responsibility of its more immediate adminstration."

From the very commencement, however, Dr. Caleb Crowther, who was appointed visiting physician in 1819, after twenty years of practice in Wakefield as a general practitioner, took a different view.

He felt strongly that the visiting physician should have sole

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control over the medical and other treatment of the patients, and that an asylum director should be a sort of male head attendant, on a par with the matron.

He found support for this in the writings of Esquirol, who said:

> "The Physician should be in some sort the principle of life of a Lunatic Hospital. . . .
>
> "The Director should never appeal against the decision emanating from the Physician, and should never interfere between him and the lunatics, or between him and the keepers. . . .
>
> "The Physician at his visit dictates his prescriptions to a medical and pharmaceutical pupil; the superintendent of the men, the female superintendent of the women, assist the Physician each in their department; every servant is near the patients to give an account of them and to answer questions. . . .
>
> "He (the Physician) prescribes the use of the strait waistcoat, of restraint or coercion, of baths, of douches. He grants certificates of cure and of discharge."—*Brit. and Foreign Med. Review*, January, 1840.

Esquirol, however, undoubtedly did not, in his scheme, require a professional director who was an M.D., M.R.C.S.

The grievance of Dr. Crowther in effect was that the visiting justices gave autocratic power to the Director, actually treating him as a physician and an equal, and ignoring the views of the visiting physicians. There is no evidence that Dr. Crowther possessed the active support of his visiting colleagues.

Dr. Crowther fought desperately for his opinions until his resignation in 1828. In 1830 he published a monograph on the subject. The following extracts from letters from himself and Mr. Higgins are interesting:

> Wakefield;
> 16th February, 1828.
>
> "Sir,—For eight years and three months, during the most valuable part of my life, I have devoted more than five hours of my time, upon an average, every week, to the business of the pauper lunatic asylum.
>
> "During all this time, I have been opposed and thwarted by a Director, whose object it has been to become the autocrat of the asylum, to govern me and to govern you.
>
> "Where there has been any difference between us, and an enquiry has been requested, you have usually decided in his favour, without ever hearing me.
>
> . . . . . .

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"Although I have resigned my office, I propose continuing to discharge its duties until you appoint a successor.

"I am, yours etc.,

"C. CROWTHER.

"Godfrey Higgins, Esq.,
"Skellow Grange."

[*Reply.*]

"SIR,—On my arrival at home this morning, I had the honour of your letter, the receipt of which, as a gentleman, I think it right to acknowledge.

"It is not my custom to render an account of my conduct, as a Justice of the Peace, except to the Court of King's Bench; but I will so far step out of my usual course as to inform you, that whatever you may have heard, I am quite satisfied that I have never, with regard to you, been either mistaken or misinformed. Respecting my conduct as a Magistrate, I trust all further correspondence betwixt us will be discontinued.

I have the honour to remain, sir,

"Your humble servant,

GODFREY HIGGINS.

"Skellow Grange,
"3rd March, 1828."

THE REFORMING ZEAL OF DR. CALEB CROWTHER.

In 1838, 1841 and 1849 there appeared monographs by Dr. Crowther, entitled *Observations on the Management of Madhouses.*

In 1834 Dr. Crowther presented a petition to Parliament from which the following are extracts.

"To the honourable the Commons of the United Kingdom of Great Britain and Ireland, in Parliament assembled, the petition of the undersigned Caleb Crowther, Physician, practising in Wakefield,

"*Humbly sheweth,*

"That your petitioner has, professionally, for many years attended the Pauper Lunatic Asylum at this place, and that since he resigned the office of Physician to that institution, he has visited a great number of Madhouses and public Hospitals, in different parts of the empire, with a view of comparing their respective merits and defects, and of forming a just estimate of the first principles necessary for the government of Madhouses.

"That your petitioner humbly prayeth your honourable house to appoint a Commission during the present session of Parliament to examine, without exception, all the public and private Asylums for the insane in the United Kingdom, and to

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compare their administration with that of some of the best-regulated Hospitals and Infirmaries.

. . . . . .

"That the great errors committed by the Visiting Justices, in medical matters, at the Penitentiary at Milbank, at Cold Bath Fields Prison, at the Asylum and Prison at Wakefield, and at the Asylum at Hanwell, prove how unfit Magistrates are to govern such institutions, and indicate the necessity, in this country, of the appointment of a Minister of Health.

. . . . . .

"Your petitioner, therefore, begs permission to suggest, to your honourable House, the propriety of putting all Madhouses, both public and private, under the management and entire direction of a Medical Board, consisting of twelve persons; nine or ten of that number to be Physicians, and the remainder Civil Engineers. Three members of this Board, two Physicians and one Civil Engineer, to be required to visit, four times a year, at irregular intervals, every Asylum in the United Kingdom.

. . . . . .

"All the acts of the Physicians and Civil Engineers ought to be done in public; except the visits of the Physicians to the insane patients.

"The business of the Civil Engineer will be to examine whatsoever relates to the buildings, to the accounts, and to the domestic economy of the establishment.

. . . . . .

"Your petitioner, therefore, most humbly prays that your honourable House will adopt the measures herein suggested, or such other measures as may appear to your wisdom most efficacious, to secure to the insane judicious and humane treatment during confinement, and the most speedy restoration to their friends; and your petitioner will ever pray, etc.

"CALEB CROWTHER, M.D.

"Wakefield; Feb. 7, 1834.

"To the Lords Temporal and Spiritual of the United Kingdom of Great Britain and Ireland, in Parliament assembled."—*Observations on the Management of Madhouses, etc.*, by CALEB CROWTHER, M.D., 1838 [Part I], pp. 139–145.

To these I add the following extract from his monograph, as it completes the description of his views on the subject:

"Reflections of this kind induced me in a former publication to suggest that Madhouses should be placed under the government of a Medical Board. If this be objected to on the ground

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that Physicians are seldom good practical men of business, let a Barrister and a Civil Engineer be joined with a physician in superintending every licensed mad-house."—*Ibid.*, Part II, 1841, p. 9.

Further extracts of interest on various subjects are:

Justices.

"What may generally be the situation of non-resident Physicians to Pauper Lunatic Asylums, it is impossible for me correctly to portray; but this I know, that at Wakefield, it is anything except what it ought to be. If anything be amiss with respect to the other officers of the institution, he has ignorant, partial, and sometimes insolent, visiting Justices to appeal to, who are fearful of losing power, and regardless of the feelings of others."—*Ibid.*, Part I, p. 65.

Surgeons.

"It is, however, of considerable importance, that a Surgeon, well skilled in minute anatomy and pathology, should be appointed, with a small salary, to superintend the dissections." —*Ibid.*, p. 67.

Salaries.

"Since I wrote the above, I understand that the attending physicians have applied for, and obtained, a stipend of £75 per annum each, for their professional attendance at the asylum, which I am of opinion is too small a sum. From the observations which I have made, and the experience which I have had, I think that £150 per annum ought to be given to the Senior Physician, with a view to ensuring his attendance when he gets into full practice; and £100 per annum to the junior Physician. For the Director giving up his whole time £200 per annum; and £50 for the Matron would be amply sufficient with the present allowance of House-room, Provisions, and Servants, etc., to secure the Talents best adapted to the situation. A small annuity of £20 per annum ought to be granted to a dissector, with a view to ensuring all the advantages that can be derived from morbid anatomy. By constantly employing one person, the morbid appearances would be more accurately observed and more minutely recorded, than when that business is performed by several individuals. The danger which the anatomist encounters from wounds in dissections, entitles him to a pecuniary reward."—*Ibid.*, p. 12, foot-note.

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Justices and Director.

"There appears to me to be much impropriety in the Magistrates joining the parties of the Director, and of their taking luncheon there at their quarterly meetings. . . .

"How can the visiting Justice find fault with the Director, for entertaining his friends at the expence of the county, when he himself participates with him."—*Ibid.*, p. 79.

Director and Physicians.

"Now in the situation of Director to a Pauper Lunatic Asylum attended by non-resident Physicians, the labour is of an inferior order; the skill and responsibility rest with the Physicians, who receive very little for their trouble. The danger to life and irksomeness of the situation are nothing to the Director, compared with what the surgeon to a large prison, the Surgeons to the army or navy, or the general practitioner in large practice, have to encounter."—*Ibid.*, p. 84.

The Young Physician.

"Since I retired from office, I have often reflected upon the dangerous position of the young Asylum Physician, and felt anxious to exert myself as much as possible in order to prevent him from being treated with the same rudeness and insolence with which I have been treated by the Visiting Justices."—*Ibid.*, Part II, 1841, p. 78.

Whether Dr. Crowther's petition and publications had any influence or not in Government quarters is unknown, but it is a fact that the Metropolitan Board of Commissioners in Lunacy under Acts 5 & 6 Vict. C. 87, having inspected all the lunatic asylums in England and Wales except the Hospital of Bethlem, submitted a Report to the Lord Chancellor in 1844. It is also a fact that Acts 8 & 9 Vict. C. 100 and C. 126 "for regulating the care and treatment of lunatics generally" and "for the provision and regulation of lunatic asylums for Counties and Boroughs and the maintenance and care of the Pauper Lunatics therein," were passed in 1845 and that the Lunacy Commission was instituted to carry them into effect.

It is further a fact that this legislation, though it left the local management and direction of individual asylums untouched, followed the general lines indicated in Dr. Crowther's petition, but the Commission consisted of legal and medical members and did not include civil engineers.

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The extraordinary and even scandalous charges brought by Dr. Crowther against madhouses and visiting justices, but particularly the wicked personal attacks made by him in his monographs on Dr. Ellis and Dr. Corsellis, could not conceivably be made nowadays. They entirely put in the shade the fairly recent *Experiences of an Asylum Doctor*, by Montagu Lomax, and the *Hard Cash* episodes of Charles Reade's in the middle of the nineteenth century.

One can only conclude that Dr. Crowther became a monomaniac on asylum abuses in consequence of his fancied wrongs while a visiting physician to Wakefield Asylum. This conclusion is based on a careful study of Dr. Crowther's own writings. Dr. Ellis *might* have been a druggist without medical training, and Dr. Corsellis *might* have been "a young surgeon who had been in business for a short time in Leeds . . a young man unknown to fame, never having had much practice," but surely *both* these gentlemen were hardly likely to have bought bogus degrees of Doctor of Medicine to enable them to call themselves physicians, to fit them for the position of director of the Wakefield Asylum and to make them fit company for the justices, and this without being found out except by Dr. Crowther.

The Humanity of Sir William Ellis.

I shall now refer to the ideals of Sir William Ellis, the first director of Wakefield Asylum, to his great humanity, and to his successful efforts to alleviate the condition of the insane, both at Wakefield and later at Hanwell. His views on the early treatment of incipient mental disease, the actual care of the insane and the provision of temporary help on discharge read, except for the stilted style of his time, as if they were written for our guidance to-day, instead of a century ago.

The Treatment of Insanity.

General Principles.

"Faithfully to perform the various duties connected with the general management of the institution, to promote the recovery, and ameliorate the condition of the unfortunate inmates of it, has unceasingly been the most anxious wish of those to whose care it has been intrusted."—1st *Report, Wakefield Asylum for* 1818 *and* 1819.

"The employment in some way or other, of every patient, has been constantly persevered in, during the year, and this has been attended with the best effects."—*2nd Report, for* 1820.

"Of all the afflictions to which human beings are liable, the

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loss of reason is certainly the most severe. Deprived of this noble faculty, man is at once shut out from every social endearment, and becomes a painful spectacle to all around him. The restoration, then, of the mind to its natural vigour must be, to every feeling heart, an object of the most anxious solicitude."

"The false opinion formerly entertained of insanity that it was an irremediable disease checked the natural impulse of humanity, and prevented any effort being made for the recovery of those who unhappily laboured under it. This opinion in some measure, it is to be feared, still prevails, or, at least, the importance of immediately applying for relief on its first appearance is not sufficiently understood."

"It must, however, be confessed that there are, and will be, cases which, even when taken on the first appearance of the disease, baffle every effort for its removal; particularly in melancholia, where it is indeed painfully seen that—

"'The grief that does not speak,
Whispers the o'erfraught heart, and bids it break.'"

3rd Report, for 1821.

"It will be readily acknowledged that this destruction of clothing cannot be entirely prevented without the adoption of those coercive measures, formerly used in other asylums, but which have been so justly reprobated, and so carefully excluded from this. The disease itself, in its mildest form, and when treated in the kindest and most judicious manner, must excite the tenderest pity, but to know that the afflictions of the patients were increased by any unnecessary severity, only to prevent such casualties, would be, to every benevolent mind, a source of the most painful reflection."—*4th Report, for* 1822.

Tact.

"Many years ago, when the workmen were fitting up the asylum at Wakefield with gas-pipes, one of them carelessly left, in one of the wards, an iron chisel more than three feet long. A very powerful and violent patient seized it, and threatened to kill anyone that should go near him. Keepers and patients all got out of his way, and he alone was soon in possession of the gallery, no one daring to go near him. After waiting a little time, until he was at the further end of it, I went towards him quite alone. I opened a door, and balancing the key of the ward on the back of my hand, walked very slowly towards him, looking intently upon it. His attention was immediately attracted; he came towards me, and enquired

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what I was doing. I told him I was trying to balance the key, and said at the same time that he could not balance the chisel in the same way on the back of his hand. He immediately placed it there; and extending his hand with the chisel upon it, I took it off very quietly and without making any comment. Though he seemed a little chagrined at having lost his weapon, he made no attempt to regain it and in a short time the irritation passed away."—*A Treatise on the Nature, Symptoms, Causes and Treatment of Insanity, with Practical Observations on Lunatic Asylums, and a Description of the Pauper Lunatic Asylum for the County of Middlesex at Hanwell, with a Detailed Account of its Management*, by Sir William Ellis, 1838, pp. 221–2.

Employment.

"When the system was commenced by myself and my wife, on the opening of the Asylum for the West Riding of Yorkshire, at Wakefield, so great was the prejudice against it, that it was seriously proposed that no patient should be allowed to work in the grounds outside the walls without being chained to a keeper. Another suggestion was, that a corner of the garden should be allotted for their labour, and that they should dig it over and over again all the year round. The kind feeling and good sense of the people in the neighbourhood soon overcame these prejudices."—*Ibid.*, p. 8.

Early Treatment.

"The patients themselves, indeed, are sometimes sensible of the benefit which they would derive from being earlier put under proper treatment. One of them lately observed to the nurse that she thought that if she had been sent a few months earlier she would at this time have been quite well, but that now she is as a piece of waste stuff put out of sight."—*4th Report, for* 1822.

"But to the disgrace of human nature it must be stated that in some instances the detention has been with the friends and relatives of the patients. One man was discovered who had been confined for eleven years in a hole under the stairs, which was too low for him to stand upright, and too short for him to lay straight, without being shaved and almost without clothing. His limbs had become so contracted from their continuance in a bent posture, as to make any other painful to him. It will scarcely be credited that his father was his keeper."—*5th Report, for* 1823.

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"It is to be observed that a very large proportion of those who have been previously insane soon recover. For it frequently happens, that, sensible of the advantages which they have derived from being under proper management before, the friends of the patients, and even the patients themselves, seek for admission on the first approach of the precursory symptoms."—*6th Report, for* 1824.

"Many also have been rendered incurable either by neglect or the improper treatment of excessive bleeding and general depletion. Several have been sent here in such a state of emaciation and debility that in a few days, nay even in a few hours, death has closed the scene."—*7th Report, for* 1825.

The Administration of the Act of 1808.

"In 1808 a Bill was passed for their better management, and which also required their numbers to be returned by the parish officers. These lists, though very defective, showed so many more to be suffering under this most deplorable disease than was at all calculated upon, that, in different parts of the country, the feelings of some truly philanthropic gentlemen being excited, they sought out their situations, and discovered that nearly half of them were chained in the most wretched holes, in workhouses and in prisons, and even in the institutions professedly established for their cure. Mystery, quackery and the grossest abuses prevailed in their treatment, at the same time that they were crowded to excess. . . .

"Even medical men, in general, have not yet turned their attention to it as it deserves. For though a bodily disease, requiring remedies for its removal, on its first coming on, as much as gout, dropsy or fever, the study of it forms, as yet, no part of a regular medical education, an event greatly to be deplored. No one complaint, to which the human frame is liable, has been involved in the same obscurity, assumed such various shapes, such nice shades in the symptoms, that, to speak with certainty, even of its existence, or non-existence, sometimes perplexes those most conversant with it. . . .

"If the London University, or King's College, now erecting, could establish a Professorship in Insanity, and oblige all medical students to attend the lectures, it would be an incalculable benefit conferred upon mankind. . . .

"The clause in the Act of Parliament, from the neglect of which the insane poor suffer the most, is the one that directs the Overseer to send them to the County Asylum, within seven days of his becoming acquainted with the case. Instead of

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this being done, it often happens that weeks, months, and years, are allowed to pass over, without seeking any relief for them, or the time is occupied in the fruitless attempt of the parish medical attendant to remove a disease, with the treatment of which he is generally unacquainted, and is always without the power of using those moral remedies so necessary to accompany the medical prescription.

"Instead of the patients being sent within the time limited by the Act the warrants, and other public documents, belonging to the Institution, will clearly prove that of 1,273 admitted only 398 are pretended to have been sent within three months of the disease coming on, and judging from the appearance of many of them, it has clearly been of much longer standing; 365 are reported to have been insane from one to 30 years prior to admission, therefore, were among those usually deemed incurable. Very seldom indeed is it that the order is promptly acted upon. The expense of providing for the patients here, small as it is, deters the overseer from applying until all other means have failed. The Magistrates' warrants, and medical certificates, will also show that 1,026 of the patients admitted have been under some treatment (medical) for the disease prior to their coming; and it is therefore fair to conclude that they have been sent only because they were found incurable elsewhere."—*11th Report, for* 1829.

The General Ignorance of Medical Men on Mental Diseases.

"I believe that my friend and colleague, Dr. Morison of Cavendish Square, is the only lecturer in London expressly on insanity; and I understand that he has not a large class. Indeed, except as being incidentally touched upon in the lectures on forensic medicine, it appears almost entirely neglected in the course of a medical education."—Sir William Ellis, *op. cit.*, p. 253.

Assistance after Discharge.

The Harrison Fund.

The following description of the objects of the Harrison Fund is taken from the 23rd Report, for 1841:

"It may not be improper once more to explain the object of this fund. In the year 1825, Joseph Harrison, Esquire, of Kennington, Surrey, formerly of Wakefield, left a legacy of £1,000 (minus the duty) to 'the Lunatic Hospital, at Wakefield.' Out of the County Purse, £300 was added, with which sum

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two fields were purchased, and conveyed to the Visiting Magistrates as trustees.

"For this land the Treasurer of the Asylum pays an annual rent of £36, which income is disposed of in donations to necessitous patients on their discharge, at the discretion of the Visiting Justices, not giving any one patient more than £5.

"The first relief afforded from this Charity was in June, 1828, since which period no less a number than four hundred and fifty persons have been relieved, on their discharge from the Institution. An additional sum of £98 8*s*. 7*d*. has been raised by the profits of the asylum bazaar and added to the Harrison's Fund. Thus, not only has a pecuniary advantage been derived in this way, but the fancy articles with which it is furnished, have been an endless source of amusement; and the industry and ingenuity have been stimulated, by the hope of ultimate reward."

The Fund is referred to by Dr. Ellis in his reports as follows:

"The profits arising from the land thus purchased by the bequest of the benevolent gentleman above mentioned will perpetually afford the Visiting Magistrates an opportunity of conferring essential benefits on some of the most reliable of our fellow creatures. For it not unfrequently happens that the patients when they have recovered and are about to be discharged learn for the first time from some relation or friend that during their confinement their homes have been broken up, their little furniture sold, their children sent to the workhouse, and want and misery left them as their only portion. To overcome such difficulties often requires an energy their weakened minds no longer possess, and after a short struggle with their calamities they again relapse into disordered intellect, and often become worse than when first admitted. Only a few weeks ago, a poor man who had just recovered after a confinement of nine months was told by his daughters who came over to see him that unless his rent (who in consequence of his illness had run £5 in arrears) was immediately paid, his landlord would sell him up. His children who had entirely supported themselves by weaving without any parochial aid during their father's absence, applied to the Overseer for assistance, but in vain. And their very looms, by which alone they were enabled to earn their bread, would have been sold, but on the case being made known to the Visiting Magistrates, they allowed him one half of the money; and a few benevolent gentlemen having heard of his situation very kindly made up the other. He was thus enabled to

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return home light-hearted, instead of being reduced to a state little short of despair."—*8th Report, for* 1826.

"During the year, nine of the patients who had been discharged being in very necessitous circumstances and having rendered themselves useful by their labour to the Institution received donations, by order of the Magistrates, from Harrison's Fund. The being enabled to afford a little pecuniary assistance to some of those patients on their going home where distress and poverty have been the primary causes of the disease and where the same misery they left awaits their return is likely to be productive of the greatest benefit. They feel from this unlooked for consolation that they are not totally destitute and are thus stimulated to exert themselves for their future support."—*10th Report, for* 1828.

In the Life of Ellis, entitled "Our Doctor," by the author of *The Kaleidoscope*, the remark occurs: "The distressing circumstances under which any poor patients, so placed, must return to their families, led Dr. and Mrs. Ellis to suggest the formation of a fund, to be applied to the temporary help of such cases." Were it not for this statement one might be disposed to imagine that the bequest of Mr. Harrison was the origin of the Harrison Fund, for Dr. Ellis, with characteristic reticence and modesty, merely records the bequest and the purpose to which it was to be applied. In reality the bequest was merely an instrument placed in the hands of a benevolent man, who could well advise the visiting justices how best to employ it.

Our Harrison Fund is still in existence. It is now employed both for the benefit of discharged patients without means and for the provision of amenities for patients within the hospital. In this large industrial district I believe that there was great need for such a fund a century ago. Poverty was rife owing to the hardness of early industrial conditions. On the other hand, the friends of patients are now relatively well off and the Fund is chiefly of value for the relief of cases without friends.

The Queen Adelaide Fund.

In the same work appears the following account of the origin of the Queen Adelaide Fund of Hanwell:

"The remembrance of the benefit derived from the Harrison Fund, induced Sir William to make efforts to raise a similar provision to relieve the necessitous patients discharged from Hanwell.

"Just at this time, when their wants pressed heavily upon their kind friend and doctor, a young woman who had left

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cured, wrote to Sir William in great distress, detailing her piteous history in a touching manner, and earnestly requesting his help. Col. Clitherow called at Hanwell shortly after the letter arrived. It was at once put into his hands. He was going to dine that day with their Majesties at Windsor. He took the latter with him and showed it to the Queen. When her Majesty read it, she at once offered to render the poor girl the help she needed. The Colonel then explained the efforts that were making to raise a fund to supply the wants, not of that case only, but of the many who left Hanwell under similar circumstances. This was the origin of the Adelaide Fund.

"A statement in writing on the subject was shortly after, by her wish, submitted to her Majesty."

Extract from a letter by Col. Clitherow to Dr. Ellis, June 3, 1836:

"Yesterday I was again at Windsor. My interview with her Majesty was most satisfactory. Queen Adelaide's Fund is now open with her donation of £100. Remember it is *your child*, to be introduced into the world by your humble servant, and if it fail, I shall have to reproach myself."

The Fund, thus auspiciously commenced, soon amounted to a considerable sum. The interest of it has been applied from time to time in affording assistance to those cases where, but for it, the discharged patient would have been thrown back upon society without the means of earning a livelihood.

Queen Adelaide's Fund still flourishes, and I am indebted to H. Scott Freeman, Esq., Clerk to the Trustees, for the following particulars:

"The allocation of the net income of the Fund is two-thirds to London and one-third to Middlesex. . . . The net yearly income is applicable for the benefit on or within five years of their discharge as cured of persons maintained at any time during their period of detention in a Mental Hospital of the administrative counties of London and Middlesex. Grants are made to twelve Mental Hospitals and also to the Mental After-Care Association. . . . The total number of cases which the Trustees were able to relieve during 1926 was 316 and during 1927, 301."

Harriet Martineau, in her *Miscellanies*, vol. i, p. 232, gives a touching account of her frequent visits to Hanwell and of the humanity of the treatment there under Sir William and Lady Ellis. Sir William Ellis left Hanwell in 1838, dying at the early age of 59, in the following year. There is no doubt that he was a really great man and an earnest philanthropist. The fact that he left his mark on Wakefield is to be seen in the reference, some years after his

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death, in the annual report for 1843, to the subject of the employment of patients: "As a moral means in the cure of insanity, it was first attempted in this Institution by the late excellent Sir W. Ellis and was carried out with a zeal and humanity that do honour to his memory."

I shall again refer to Sir Wm. Ellis's *Treatise on Insanity* and to his scientific views regarding its causation and treatment.

Ellis to Bevan Lewis.

When Dr. Ellis left in 1831, the old H-shaped building had been extended by the addition of an eastern wing. Under Dr. Corsellis a corresponding western wing was added in 1841, a director's house in 1843, and the large "New Asylum," now the female chronic block, which was a glorification of the original building in style, was put into partial occupation in 1846 and completed in 1848, just before the occurrence of the great cholera epidemic.

Each of these buildings possessed what, to a modern, must be regarded as a peculiarity, namely, the absence of adequate administrative quarters and offices.

Dr. Corsellis left in 1853, his wife (the matron) being granted a pension.

The period of office of Dr. Corsellis was a busy and stormy one. Early in his directorship he lost his only child from acute dysentery, and he ever after seems to have felt it his duty to defend the asylum against the popular opinion that the disease was endemic and a scourge. Scarcity of water for many years must have caused him great anxiety, and during his early years of office grave public discontent, which even culminated in small battles between the public and the asylum authorities, existed over the closing of the ancient corpse road from Stanley to Wakefield. The closing of the road was absolutely necessary, since it lay directly between the original building and the site of the projected new building, and its diversion caused no public inconvenience. The existing tunnel between the two divisions of the chronic block represents the site of the old corpse road.

Little information exists with regard to Dr. Corsellis himself beyond the contents of his annual reports.* He believed in asylums of not more than 300 patients, though when he retired Wakefield Asylum contained some 800 inmates; he preferred single rooms to

* [A pioneer, however, in one matter, for at the Third Annual General Meeting of the Association held on June 1, 1843, in London, a communication was received from Dr. Corsellis, of Wakefield, on the subject of inserting a clause in any new Act of Parliament, empowering the Visitors of County Hospitals for the Insane to grant retiring pensions to the officers.—Eds.]

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dormitories, and he thought a moderate degree of mechanical restraint preferable to an increase of staff. He did not encourage amusements amongst patients, considering that regular work was better for them and that the working classes did not readily appreciate recreation.

Whether Dr. Crowther's allegation that he rode too frequently to hounds and was too often in the streets of Wakefield and Leeds be true or not, Dr. Corsellis was very popular with both patients and staff, and when he left he was presented with "a large painting of himself and a horse, and also a painting of the horse." The former of these has been offered to the hospital by its present owner, his sister's grand-daughter, at her death.

In 1853 Dr. Corsellis was succeeded by Dr. Alderson, about whom nothing is known and who died in 1858, after a long period of ill-health. It is an interesting fact that Dr. Alderson's assistant, Dr. Chapman, was not elected, as he did not comply with the regulations regarding medical qualifications:

> "That Dr. Chapman is not eligible to be on the list of Candidates he not being a member of the College of Physicians nor of the Royal College of Surgeons of London, Edinburgh or Dublin as required by Rule 23 for the management of the asylum and for that reason ought to be struck off the list of selected candidates." "A motion was moved and withdrawn that the election be postponed for six weeks to enable Dr. Chapman to qualify himself to become a candidate."—*Committee resolution February* 25, 1858.

Dr. Chapman was allowed £130 in addition to his salary as house surgeon for his services as superintendent during Dr. Alderson's indisposition and up to the time when Dr. Alderson's successor shall enter upon his duties as medical superintendent. A gratuity of £40 was allowed to Dr. Wright, visiting physician, for his extra services during the same period.

On July 13, 1857, Dr. Henry Maudsley was appointed temporary house surgeon until April 29, 1858, when Dr. Cleaton, of Rainhill Asylum, took on the duties of medical director.

Dr. Maudsley's services were recorded by the Committee on April 29, 1858, in the following minute:

> "That a testimonial be given to Dr. Maudsley whose term of office as House Surgeon expires this day expressing the high opinion the Committee entertain of the ability he has shown in the discharge of the important duties of his office during a nine months' residence in this Institution."

Dr. Maudsley obtained useful experience whilst here, for it is recorded that in September, 1857, he gave evidence at an inquest

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on one of his patients, who was fatally scalded in a bath wrongly given him by a fellow patient.

Dr. Cleaton, medical superintendent of Rainhill Asylum, took up his duties as medical director in April, 1858, and during the next eight years the entire asylum was transformed under the influence of perhaps the most brilliant administrator our specialty has ever possessed.

It has already been stated that both the old and the new asylums seem to have been built and extended without any regard to the question of adequate administrative accommodation. During the years 1858–61 a large new kitchen and dining hall were erected, together with store-rooms, cellars, offices, reception room and clock tower. A new weaving shed and new joiner's, upholsterer's and painter's shops were added. Quarters for medical officers, housekeeper and servants were erected, and a new entrance lodge was built. A large general lavatory for working-out patients with a covered way to it from the dining hall was provided. Lastly, a fine church with 700 sittings, identical with that built by the Great Northern Railway Company at Doncaster, was erected. In 1859 Ivy House was opened for quiet and parole patients, and in 1866 the large ward 20 for working-out patients was opened, and a detached hospital for contagious diseases was completed and ready for opening.

This is a record of work during the short space of eight years of which anyone might be proud, but it by no means completes the list. Many thousands of square yards of stone corridors and floors in the wards were replaced by wood, the interior of the wards was generally decorated, and engravings were provided. Chairs replaced forms in the wards, and leather shoes were given to all patients in place of the cloth shoes in use. Weekly dances, music and glee singing were commenced, and before Dr. Cleaton left the Asylum possessed a strong band of 22 performers, and a fine choir, which was voluntarily recruited from the town of Wakefield. The patients enjoyed dancing, musical or dramatic entertainments, and exhibitions of dissolving views were given. Among the games were cricket, croquet, bowls and quoits, and ball target for the women and tonneau for the men. Lastly, two annual picnics for some 200 patients were given at Walton Hall.

During Dr. Cleaton's directorship mechanical restraint, always rarely used, was never employed, because of "(1) an adequate number of attendants, (2) ample employment and out-door exercise, (3) periodic recreation and amusement, and (4) general discipline, from an adequate medical staff, of a high standard."

The diet, clothing and exercise of the patients were improved, the

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sick began to be treated in infirmaries, and personal washing and bathing were more frequently performed.

In 1866 a severe epidemic of typhoid and diarrhœa occurred, and only subsided when the main drain conveying the whole sewerage to Wakefield was covered in for several hundred feet of its course. The asylum contained at this time 1130 patients.

During the year 1866 Dr. Cleaton resigned on his appointment as a Commissioner in Lunacy. The vacancy was advertised and 17 duly qualified gentlemen offered themselves. The eight who attended by request included Dr. J. C. Browne, Dr. T. S. Clouston and Dr. F. Needham. Dr. Browne (afterwards Sir James Crichton-Browne) was elected with only one dissentient vote, and "very shortly afterwards he entered on the duties of his office, and the visitors have great pleasure in stating that so far as they can judge at present, Dr. C. Browne is thoroughly conversant with and able to perform the duties which devolve upon him."

To few men could have fallen such a difficult task as that of Dr. Browne, as the directorship of Dr. Cleaton was the second great landmark in the history of the asylum. So well, however, did Dr. Browne employ his ten years of office that the Wakefield Asylum acquired not only a national but a European fame both for the treatment of the insane and for the prosecution of scientific research.

Soon after his appointment, Dr. Browne, speaking of the absence of knowledge of the causation of insanity and of the absence of any fall in the death-rate, remarks:

> "Medical records thoroughly and carefully kept, post-mortem examinations invariably and exhaustively performed and therapeutic agents critically employed will yet lead to conclusions as to the nature and treatment of insanity of incalculable importance." . . . "Were a competent pathologist and a few clinical clerks appointed to each of our large asylums, I am confident that a great change would shortly take place in the science of medical psychology."

That Dr. Browne practised what he preached is shown by the remark of the Commissioners in Lunacy for 1867:

> "Unless positively forbidden by the patient's relatives, post-mortem examinations are now made in every case. Our attention has been directed to the large number of patients reported to have died from diarrhœa, which it appears became epidemic during portions of last year."

In his report for the same year he states:

> "The humane system is only maintained by the constant and earnest labours of an enlightened few. Were the Commissioners in Lunacy, the Visiting Justices and those other

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guardians of the insane appointed by the legislature, to relax their exertions for a single year, we would be as if Pinel and Conolly had never lived."

Regarding the employment of female nurses in male wards, Dr. Browne remarks:

"Such an auxiliary seems to be found in the appointment of female nurses to male wards. . . . One such appointment has taken place here during the last year . . . in April in one of the largest male wards, containing 70 epileptic and suicidal patients. . . . The ward has become quieter and more orderly under her influence. . . . It is in the male sick wards, however, that female nurses will be found most useful. There they may prove invaluable. . . . It follows as an inevitable corollary that female nurses should be added to our sick wards whenever it is practicable to do so . . . will be carried out here as soon . . ."

It was, however, nearly half a century later that in this hospital female nurses became almost as common as male nurses in male wards.

A schoolmaster was employed to conduct reading and writing classes for certain patients. Regarding the care of records, Dr. Browne remarked in 1868, "An important step in this direction was made here two years ago when your Committee sanctioned the appointment of two clinical clerks."

In 1870 he indicates the existence of a pathological department by speaking of the "erection of a new photographic studio in lieu of that removed from the courtyard of 35, with a small pathological museum attached." This building appears to have been erected adjacent to the pathological laboratory near the infectious hospital which was opened in 1866.

In 1870 the first volume of the *West Riding Reports* was published, as he refers to the "Volume of Medical Reports which will henceforth be published annually. The first of the series was issued last autumn." Six of these volumes, containing a wealth of valuable matter, appear to have been published, by which time the publication of journals of a less purely local character provided a more satisfactory means of recording research.

In 1872 occurs the following: "The appointment of a Pathologist which you have thus sanctioned is I believe a somewhat momentous step in the march of scientific progress in the lunatic asylums of this country. . . . As far as I am aware no other asylum is yet provided with such an officer." Dr. Browne here expresses an opinion which has been amply borne out by the course of events.

One of the earliest workers in the Wakefield laboratory

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was the late Sir David Ferrier, who here carried out, in 1873, his epoch-making experimental researches on the localization of cerebral function. These are published in vol. iii of the *West Riding Asylum Reports*. Our laboratory possesses a remarkable record both of work and of workers, and after much extension and a life of nearly sixty years is as active as ever.

Dr. Browne not only fostered research, but by means of medical conversaziones with eminent lecturers, etc., he did his utmost to promote a general medical interest in the work of the laboratory and the administration of the asylum.

In view of the remarkable record of administrative improvements of his predecessor, it is not to be expected that a similar series of changes could be either necessary or possible. Many important steps were, however, taken during his directorship.

In 1868 an old weaving-shed was converted into a large sick-ward and dormitory, although it was not until the present year, six decades later, that proper administrative offices were added. The extensive additions which have been needed in order to modernize this ward afford a striking example of the great change in hygienic and administrative requirements which has occurred during the past half century.

In the same year (1868) the important step was taken of acquiring Mount Pleasant House at Sheffield as a second centre for the treatment of the lunatics of the Riding. This was the precursor of the South Yorkshire Asylum at Wadsley, which was opened in 1872 under Dr. Mitchell, Senior Assistant Medical Officer at Wakefield, who during the Great War in his old age left his retirement to afford us valuable temporary help.

In 1870 " the new dining hall and bath-room for women patients, which have been fitted up temporarily as dayrooms and dormitories, were opened in November and are now fully occupied." . . . " What will ultimately form the hall proper is now subdivided into two stories by a temporary floor, which will be removed after the completion of the South Yorkshire Asylum."

After 58 years this temporary arrangement regarding the dining-hall still continues and is likely to last, since dining-halls in this hospital are now obsolete.

On the other hand, the new bath-room was in 1876 put to its proper use, this following the erection, in 1871, of Turkish baths after Dr. Tilbury Fox's plans at University College Hospital. These buildings will shortly be removed under our present scheme of modernization.

In 1873 Field Head was opened as a convalescent home for female patients, and by 1876, when Dr. Browne's period of

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office ended, other needful shops and offices had been erected and the large new laundry was completed.

I would remark here that about this time a valuable fire brigade was organized for the protection of the hospital and its patients.

While Dr. Browne was director he was ever the medical man as well as the administrator, and he introduced many reforms which, had he remained in office, would certainly have been generally adopted. For example, he introduced earth closets in place of night stools, and I remember seeing one of these in a dilapidated state. It has, however, fallen to me, half a century later, to replace the wooden night stools by water-closets and, in the hospital wards, modern enamelled iron commodes.

He also suggested dormitories for epileptics in place of porous pillows in side-rooms. It fell to me to make it an administrative crime to bed an epileptic out of observation and to abolish the numerous porous pillows.

He did not limit himself merely to the introduction of reforms, but practised his art himself, as the following unique extract from the *Medical Director's Journal*, January 30, 1873, indicates:

> "On the 11th of the present month after consultation with Mr. Wheelhouse one of the surgeons to the Leeds Infirmary I amputated the leg of a male patient, Stephen Pickles, who was sinking rapidly under caries of the bones of the ankle. The operation was successful and the stump has healed in the most satisfactory manner. It is a remarkable fact that not only has the patient's bodily health improved greatly since the operation, but his mind which had previously been a wreck for six years has cleared up marvellously, so that there is now every prospect of his complete recovery."

When Dr. Browne left Wakefield the Lord Chancellor may have gained a delightful personality as a visitor and the country an attractive and ubiquitous lecturer, but undoubtedly this hospital lost a director with genius.

In 1876 he was succeeded by the senior assistant medical officer, Dr. Herbert Major, who had been in the service of the asylum since 1871, and during this period had already acquired a considerable reputation by his histological researches, which, I may remark, he continued during his tenure of office as medical director.

In 1878 Dr. Major refers to his lectures at the Leeds School of Medicine and at Wakefield. This is the first reference in our records to this subject.

The first telephone was installed in the institution in 1883. It was not, however, until 1926 that a complete telephone installation was provided.

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In 1884 Dr. William Bevan-Lewis, Senior Assistant Medical Officer, succeeded Dr. Major as medical director. Dr. Bevan-Lewis, like Dr. Major, had held office in this hospital for several years, and also, like him, had already acquired a reputation as a neuro-histologist.

In 1888 the third West Riding Asylum at Menston was opened, and in the same year the County authority took over the management of the asylums.

During the period 1884–1910 many important structural and administrative improvements were introduced, and it is an interesting fact that these, as a whole, concerned modernization by extension of the hospital rather than the better provision of essential needs in the existing buildings.

The following extract from Dr. Bevan-Lewis's Report for 1889 indicates his general views on modernization better than would a lengthy description. Referring to the proposal, under the auspices of the London County Council, to erect an acute hospital, providing accommodation for 100 patients, to appoint a staff of experienced visiting physicians, and to establish in connection therewith a school for the scientific study of mental disease, he remarks:

> "It must be admitted that the tendency to the establishment of the hospital system is the correct one, and that this end will be eventually realised. Within the Metropolitan area the conditions are so peculiarly favourable to its development that one is surprised at the limited accommodation proposed by its advocates; but as applicable to the provinces, the difficulties of applying the system are obvious, and a modified procedure is necessarily demanded. That the large County Asylums should eventually become receptacles for the hopelessly incurable chronic class, officered and managed upon a far more economical system than the present; that special hospitals for dealing with the acute insane, with a well trained staff of experienced alienists, and affording facilities for a development of clinical teaching should be instituted; and that they should contain centres for scientific investigation and research, are facts so self-evident as to require no further emphasis here."

The more important structural changes which occurred during Dr. Bevan-Lewis's directorship will now be detailed.

In 1885 a mortuary was inserted between the pathological laboratory and museum, and in 1894 the laboratory was extended by the addition of the Octagon. A new isolated mortuary was

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built after my appointment and the old mortuary added to the Laboratory.

In 1889 a much-needed third storey to the administrative block was added, together with a board room. This extension was an unfortunate one, though it is difficult to imagine any other alternative at the time, as the modern buildings had not yet been projected.

In 1892 a large nurses' residence was opened, and it is difficult to understand how the asylum had been so long administered without it. Under our modern system this building is used as a ward.

In 1897 the acute hospital, containing 200 beds, was being erected, and in 1898 the fourth West Riding Asylum at Storthes Hall was projected.

In 1899 Stanley Hall was purchased, the two cottage homes for convalescent patients were under erection, and the large chronic male epileptic ward No. 36 was projected.

In 1900 the acute hospital was opened, and the alterations at Stanley Hall were completed; and it was arranged to employ the latter for the treatment of imbeciles under a trained attendant and his wife. I would here remark that the hospital contained a large lecture room and several laboratories on the first floor of the administrative block, and that electro-therapeutic methods, including the treatment of lupus, were notably extended during the next few years, both in the hospital and in association with the out-patient department, which was founded in 1889.

In 1901 a new entrance lodge was built and ward 36 was opened. In 1908, M 5, a large chronic male ward similar to the latter, was opened.

Dr. Bevan-Lewis resigned in 1910, having witnessed the building and opening, and the preliminary years of working, of the modern portion of the hospital, and I think that to a great extent it realized his ideal, although I have little doubt that—a fact perhaps mercifully hidden from him—the administration of the hospital had become beyond his powers.

He was essentially a recluse and an enthusiast, and a hard worker with few interests beyond his scientific investigations. He justly acquired a greater scientific reputation than that of any of his predecessors, and his position as a neurologist was never greater than it is at present, when it is universally acknowledged that much of his best work waited a quarter of a century for confirmation and acceptance.

I shall now, before describing the Wakefield of to-day, refer to certain matters incidental to administration which are of such interest as to deserve individual treatment.

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Mechanical Restraint and Punishment.

I need not refer to the great change in attitude towards the insane caused at the end of the eighteenth century by the influence of Pinel and Tuke. The "non-restraint" system did not, however, involve the entire abolition of restraint and punishment. This is shown even at the present time by the (in my opinion) regrettable Regulation, dated June 25, 1913, of the Lunacy Commissioners (now Board of Control) under S. 40 (6) of the Lunacy Act, 1890, as to mechanical restraint. It is also clearly indicated by the fact that mechanical restraint within seven days of death is referred to in the certificate of death of every mental hospital patient.

I think, on the whole, that the record of this hospital is fairly clean with regard to what I was taught, over forty years ago, by the late Dr. W. H. O. Sankey, to regard as an abomination.

The milder forms of mechanical restraint were, no doubt, employed at times here and also at Hanwell under Sir William Ellis, and in his *Treatise on Insanity* he carefully describes the methods employed. He also distinguishes between restraint and punishment or moral treatment. His personal feelings are clearly indicated in the extracts which follow:

Restraint.

"The most simple and least objectionable mode of confinement is that of a pair of wide canvas sleeves, connected by a broad canvass shoulder-strap, so as to rest easily on the shoulders. They ought to come up well on the shoulders, and to extend about an inch beyond the ends of the fingers: the part covering the hand should be made of tolerably stiff leather, to prevent the hand grasping anything. They keep the arms hanging easily, and in a natural position, by the sides of the body. They are fastened at the back by two straps, one going from one sleeve a little above the elbow, across the loins to a similar position in the other sleeve; a second lower down, and by three similar straps in the front; the latter being secured by buckles, which, in large establishments, where there are many patients to be attended to by one keeper, ought to be locked. This mode of fastening has many advantages over the straightwaistcoat. In the first place, it is less heating, it produces no pressure on the chest, and the arms, though secured from mischief, have so much freedom that the blood can circulate freely; as with those sleeves ligatures of every description are unnecessary. It is sometimes also necessary to secure the feet. For this purpose

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we find, that a couple of leather straps well lined with wool, placed round the ankles, and secured to the bed by staples, is all that is necessary. In hospital practice cases will sometimes occur, where it may be necessary to secure the bedding in its place. This can be done by having a thick quilt fastened over the blankets, by three leather straps, to the sides of the bed. It occasionally happens, that, unless this precaution is taken, the patient will toss all the clothes off from the bed. In the winter season such a circumstance may be attended with bad consequences, if the patient is not very frequently seen. It cannot be too deeply impressed upon the minds of all who have any management of the insane, that in the application of these, or any other coercive measures, the greatest mildness and forbearness should be used towards the unhappy sufferers. Though it may be necessary, in some cases, to assemble such a force that the appearance of the persons alone may prevent all opposition, yet it is unwise and cruel for the whole party to fly at the poor patient, to accomplish that which may be frequently done under the soothing influence of one favoured attendant; the mind of the patient being subdued by the presence of the others, who are ready to render further assistance if required.

"Another very convenient and easy mode of confinement, is, by an arm-chair. Each of the arms of the chair forms a padded box, which encloses the arm of the patient, from a little below the elbow to the wrist. The box ought to be sufficiently large to contain the arm quite loosely, and without any pressure, and the hand will remain at liberty. A board, which forms a very convenient rest, is attached by hinges to the inner side of one of the arms of the chair, and is fastened to the other arm. When the confinement of the arms is unnecessary the box may be opened, and the patient may still remain fastened in the chair, by means of a loose strap passing in front of the body, through two holes at the back of the chair, and there buckled. The chair may be fitted with a foot-board, a little elevated above the floor, and perforated with holes. Under this board a vessel constantly filled with hot water ought to be kept in cold weather."—Sir William Ellis, *op. cit.*, pp. 164–66.

Moral Treatment or Punishment.

"Happily the whip has for some time, at least in this country ceased to be allowed in any lunatic asylum; and the more humane and rational plan of punishment, by deprivation

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and confinement, has been substituted in its place. It sometimes, however, happens that patients are met with who are so obstinate and incorrigibly perverse that these means alone are not sufficient. The shock of the electrifying machine, which is often found beneficial in cases where the powers want rousing, is, in cases of determined obstinacy and bad conduct, equally useful. The terror of the machine will often overcome the vicious inclination. The same effect is frequently produced by the shower bath, but still more so by the use of the circular swing. These, however, are remedies which should never be had recourse to until all other means have failed; and then, never without the most explicit orders from the medical superintendent, who ought to be present whenever the latter is applied. Under these restrictions the most beneficial results often ensue; and patients soon learn to put themselves under that discipline which will exempt them from such uncomfortable consequences. By patient perseverance in kindness, with indulgence as a reward of good conduct and great firmness in the application of the requisite means to overcome obstinacy and perverseness, many patients who, from faulty education, had never been taught to exercise any control over their passions, have gradually become quiet and orderly, and have been eventually restored to reason. Kind and judicious conversation is a powerful moral means of cure."—*Ibid.*, pp. 227–8.

Wakefield and Restraint.

In the records of this asylum is the Committee Minute dated February, 1820, which runs as follows:

"That in consequence of the recommendation of the Physicians a chair with a circular movement be provided, it being understood that it must never be used except in the presence of the Director, who is responsible that this order be punctually attended to."

In the 6th Annual Report of the Directors of the Glasgow Asylum for Lunatics, dated January 6, 1820, appears the following:

"Rotary motion, by means of a whirling chair, has of late been tried in a great number of cases, and, in some of them, with wonderful good effects. By the contrivance used for this purpose, the degree and the duration of the motion are completely under command. The operation is always performed in the presence of the physician; and in no instance has it been followed by any of those formidable symptoms, which have sometimes occurred in other institutions, where a more

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simple, but much less manageable apparatus has been employed.

Dr. G. M. Burrows, in his *Inquiry*, dedicated to John, Lord Eldon, Lord Chancellor, 1820, regarding this, remarks:

> "It is proper to state, that none of the patients who died of apoplexy, were ever subjected to this operation. Notwithstanding the unequivocal evidence in favour of this remedy, from Dr. Mason Cox, Dr. Hallaran (who has given a drawing of the apparatus in his *Practical Observations*, second edition) Professor Horn and others there is still so great a prejudice against it, that it is rarely, if at all used, in English Asylums. The testimony here added may induce a more general trial of it."—*Op. cit.*, p. 301.

As late as 1854 the following rule was in force in this hospital:

> "136. The Instruments of restraint shall be hung up, and numbered, so that the nature of such Instruments, their state of repair, and cleanliness, and also the number actually applied or in the keeping of the attendants for any emergency may appear; and no new instruments shall be procured, without the order of the Committee of Visitors."

This rule was deleted without comment in 1866, presumably under the influence of Dr. Cleaton.

I have carefully studied the early case-books, which are most detailed and painstaking in content, for evidence of mechanical restraint. I find during the first two years of the existence of the asylum no instance among the males and only six instances among the female patients.

The first three of these are ordinary examples:

> No. 207. Admitted March 6, 1819. Was in August, 1819, put in a strait waistcoat and leather muzzle for biting.
>
> No. 225. Admitted July 5, 1820. Was on August 30, 1820, confined with ankle straps for escaping over the airing court wall.
>
> No. 311. Admitted January 1, 1819. Was on October 25, 1820, released from cuffs which she had worn since admission and began to mend sheets in the ward.

The other examples concern the use of the circular swing:

> No. 221. Admitted July 8, 1819. October 20, 1819: Very violent—to go into the shower bath. July 12, 1820: Same state until within a few days. She was put in the circular swing and has been better since. August 16, 1820: To go in the circular chair every other day for a few minutes. August 19, 1820: Threatening to put her in has been sufficient to induce her to work.
>
> No. 266. Admitted July 7, 1819. June 9, 1820: The fear of going into the circular swing which she has heard of induces her to work.
>
> No. 278. Admitted November 23, 1818. January 16, 1819: Perfect state of frenzy from most trifling circumstances. July 1, 1819: Has been kept in confinement with a strait waistcoat in her cell for nearly a month with the exception of going occasionally into the airing court. October 26, 1820: For some time less violent. She was put in the circular swing the last time she was so and she has been better since.

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Lastly I will add the following note from our records regarding perhaps one of the worst examples of mechanical restraint:

> No. 240. Admitted February 18, 1819. Aged 75 years. Insane 36 years. When aged 39 she drowned her infant child and from that period had been chained in a cell in the workhouse of Barnsley, until the time of her removal to this place. August 18, 1819: Improved and is harmless and employed.

Dr. Corsellis, who was medical director from 1831–1853, favoured "mild mechanical restraint." "Not so many attendants are needed and the patients can be kept recumbent if necessary." In 1848 he states that restraint *could* be done without, but he considers the cost and the question whether attendants are better than the strap or glove. He preferred gloves or mittens even to seclusion, and he remarked that the "tendency of public opinion is to ultraism of all kinds."

Dr. Cleaton, in his first report (1858), advocates the disuse of restraint and of all things reminding patients of an asylum, and during his directorship it was never employed.

During the period of office of Dr. Browne (1866–76) mechanical restraint was employed once or twice yearly, during that of Dr. Major (1876–84) several times yearly, and during that of Dr. Bevan-Lewis more frequently. Our register of mechanical restraint from June 8, 1890, to October 29, 1910, contains a steady record of its employment, there being 836 separate entries.

Since I took office both mechanical restraint and punishment have ceased.

It would be interesting to know whether, and if so, to what extent the treatment by mechanical restraint has been encouraged by the Lunacy Commissioners' rules on this matter.

I fear that many do not sufficiently recognize the great difference between the restraint necessary to surgical treatment and that avowedly applied as a precautionary measure in these circumstances. I consequently feel it my duty to conclude this section by remarking that if I had the authority I should render the use of mechanical restraint of all kinds not only illegal, but criminal, unless the individual who ordered it had first experienced its effects on his own person.

Dysentery.*

The next subject for special reference is that of dysentery, which has been endemic or epidemic in this Institution since its opening.

The asylum was opened on November 25, 1818, and the first case of dysentery was admitted on November 30 the same year, showed

* This section of the Address was read at a subsequent session.

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acute symptoms on the night after admission, and died on February 10, 1819. During November and December, 1818, twelve males and thirteen females were admitted. Two of these males, both of whom were recurrent cases of mental disease, had, on admission, or soon after, developed dysentery, and they died in February and March, 1819, respectively. It is impossible to form an estimate of the number of cases from the records, which are remarkable owing to their frequent references to diarrhœa and to blood and slime in the stools.

During the early years the asylum, originally built for 150, became greatly overcrowded. The Medical Director's reports which follow are interesting, not only as showing the prevalence of the disease, but as indicating a belief in its infectivity followed by the adoption of preventive measures. This fact, in view of the various explanations given during the next eighty years regarding the prevalence of intestinal diseases, is both interesting and important.

In the Wakefield Report for 1828, following directly on the statement that the asylum, built for 150 patients, can now hold 256, is:

> "For several years past some patients have occasionally been afflicted with dysentery, and some have died under it; but at no former period has it been so epidemical or so fatal as during the last autumn. The cases indeed became so numerous as to make it necessary to disperse the patients belonging to one of the wards into different parts of the House, in order to turn that ward into an infirmary, where the dysentery patients were kept distinct from the rest; and to avoid infection as much as possible a temporary place was built in the airing court, for the washing of the linen belonging to them. It was thought, too, that the offensive and unwholesome effluvia arising from the privies, which have always been upon a bad construction, might contribute to the spreading of the disease. To remedy this, an order was given by the Visiting Magistrates to alter them into water closets. They are now nearly all completed, and being made with copper pans, appear perfectly to prevent any unpleasant smell arising from them. Notwithstanding all that was done, the disease continued, and fresh cases daily occurred, until a change took place in the weather, accompanied with the autumnal gales of wind. It then abated, and not a single case now exists in the house. During its progress, the Housekeeper, an exceedingly valuable servant to the Institution, died of it after a few days' illness. Fourteen patients out of fifty-five attacked with it have also been carried off in the course of the year.

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"Considerable inconvenience was felt during the time of this sickness from the extra number of patients confined in the asylum beyond what it was originally intended to hold. But as no evil resulted to the patients from it, it has been thought more advisable to continue to admit as many as before, rather than by decreasing the number to consign some to the protracted miseries of continued insanity without affording them any means of relief."—10*th Report, for* 1828.

"A few fatal cases of dysentery occurred in the early part of the year; but for some time past the house has been quite free from that complaint, and is now in as healthy a state altogether as it has ever been since it was opened."—11*th Report, for* 1829.

"The number of patients admitted, as well as the average number in the Institution, during the present year has been rather less than in 1829. This has arisen from the crowded state of the house having been thought, in some measure, to have contributed to the dysentery which has occasionally prevailed to some extent, during the last four or five years. In order, therefore, to stop the progress of this epidemic, a few empty beds have constantly been reserved, to afford an opportunity of removing patients into other apartments, of regularly fumigating the rooms, and of making use of other salutary measures. But notwithstanding that the wash-house has been removed to some distance from the house, the water-closets considerably improved, and drains formed on the outside of the building, which have been constantly washed down by a large supply of spring water, of which not less than 10,000 gallons have been consumed daily in the house, many of the patients have suffered, and eight died from this direful disease."—12*th Report, for* 1830.

Dr. Corsellis, as the following extracts show, from the beginning of his directorship in 1831 endeavoured and continued either to excuse or to deny the existence of dysentery in the asylum. Throughout his reports one feels that, contrary to those of Dr. Ellis, who merely stated facts and deductions and measures employed, Dr. Corsellis wrote with an eye constantly turned towards outside opinion.

"An erroneous impression appears to have been made on the public mind as to the prevalence of dysentery amongst the patients. Such an error is calculated to operate very prejudicially, not only by creating a painful apprehension in the friends of those already confined in the asylum, but likewise by deterring such as can in any way maintain their insane relatives from resorting to the most probable means for their

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restoration. Instances of this kind have come under my own observation and have been to me a source of regret. During a very hot summer and an unhealthy season subsequent to it, while the disease was both prevalent and fatal in the neighbouring towns and villages, my own and only child, a healthy boy of three years old, who fell a victim to it, was the only serious case in the Institution. Lately a few cases have occurred, and four emaciated patients, two of whom were already sinking when attacked, have died from it. One case of dysentery now exists in the house; with this exception the inmates in general are in a very healthy state."—13*th Report, for* 1831.

"The ventilation has for some time been materially improved in the men's wards by means of a square aperture over the door of each sleeping room, and it is presumed that the extreme care taken in this respect accounts for the rare occurrence of dysentery in the house. A few cases were now and then under treatment in the beginning of the year, about four or five in number. One female was severely attacked by the disease in June; she, however, recovered and is now quite well, since which time not a single case has appeared."—15*th Report, for* 1833.

"At the close of a year in which many important difficulties have been encountered, such as a great scarcity of water, the extremely crowded state of the house, during the hot weather of last summer, and other circumstances, the Director is enabled to state, with no ordinary satisfaction, that the dysentery once so prevalent in the institution, has for the last four years gradually subsided, and has now quite disappeared. One case only has occurred during the last year, and that in a patient who had been attacked by the disease previous to admission."—16*th Report, for* 1834.

"Dysentery, once the scourge of the place, and so often the disastrous epidemic of similar institutions, is now almost unknown amongst us. The Director cannot but attribute this circumstance to carefulness in ventilation, by means of open doors and windows, which although not the most scientific method, is perhaps even more efficacious than some of those plans which require infinite contrivance and vast expense."

"There has again been a great deficiency in the supply of water, the baths could not be filled for many months in the summer season, and it was with much difficulty that a sufficient quantity could be obtained for the ordinary purposes of the house. It is hoped in a short time this evil will be

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removed, as a Water Company is formed in Wakefield, and from the situation of the intended reservoir a good supply may be furnished at a less expense than would be required in the formation of a new tank."—18*th Report, for* 1836.

"The want of water has been a serious inconvenience; during the summer months the wells, the tank and every other receptacle were dry; the water used for brewing and other domestic purposes, was carted from the river; the bathing of the patients was suspended for many months, and could not be renewed till within the last fortnight (middle of December). It is hoped that another well, which is now being made in the plantation, near the Aberford Road, will remove any future inconvenience."—19*th Report, for* 1837.

"The few and slight cases of dysentery, which now so seldom present themselves, are scarcely worthy of mention; but that the public mind may be fully disabused, and that the real condition of the establishment may be known on this subject, a table is added of deaths from dysentery, taken within the last six years, the accuracy of which may be established by a reference to the Journals, in which every case is entered by the Visiting Physicians, with the progress and treatment:

	Males.	Females.
1833 . .	1 .	0
1834 . .	0 .	1
1835 . .	1 .	0
1836 . .	0 .	0
1837 . .	0 .	0
1838 . .	0 .	0
Total . .	3	

Thus in the course of six years out of 1,231 persons, three only have died from dysentery, a number not exceeding that which would in all probability have occurred in any town in the West Riding with an equal population."—20*th Report, for* 1838.

"In the original construction of the asylum the general weekly bathing of the patients was not at all contemplated. A large bath was provided for the females, contiguous to their wards, and a corresponding one on the male side, but both communicating with the centre passage of the Institution. . . .

"By relinquishing some rooms and erecting a new staircase, bathing is now accomplished without the necessity of removing patients, as formerly, into the main body of the building; yet the accommodation in this particular is still very inadequate.

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> A bath in every ward, supplied with hot and cold water, must always be regarded as essential to the purposes of cleanliness, and highly advantageous in the treatment of insanity."—*23rd Report, for* 1841.

From 1838–48 Dr. Corsellis makes no reference whatever to the disease.

My next information is derived from the Report to the Committee on cholera on November 3, 1849, by Drs. Thomas and Wright, visiting physicians to the asylum. "Diarrhœa had prevailed somewhat beyond the average amount during the summer; and cases of dysentery had been rather more numerous." Dr. Wright states that in the eight years 1842–49 there died from diarrhœa and dysentery respectively (excluding cholera) 27 and 19, a total of 46 patients, and that the disease had been worst during the last 18 months of the period. He remarks:

> "Dysentery and diarrhœa have so long been familiar to the attendants of the asylum (but less so than formerly, as we have seen) that the treatment of these complaints has become a matter of ordinary routine; and the house pills, known as 'cholera pills,' and 'dysentery pills,' are usually kept ready for immediate exhibition; though not administered, except by order of one of the medical officers . . . calomel and opium, of which the pills chiefly consist . . . obstinate cases of dysentery, with bloody mucoid excretions, are generally relieved as soon as the gums are affected by the mercury."—*Op. cit.*, p. 109.

In October to December, 1849, of the 620 patients in the asylum (*ibid.*, p. 55), there occurred 200 cases of diarrhœa, of which 21 died, 27 of dysentery, of which 10 died, and 132 of cholera, of which 106 died.

From this period until 1865, a number of years during which remarkable improvements and extensions to the buildings were being carried out, no reference is made to intestinal diseases. They were certainly not obtrusive, the existing buildings appear not to have been overcrowded, and probably the administration was too busily employed to attend to an ordinary amount or type of illness.

On the very year of his appointment in 1866, however, Dr. Browne reports 20 deaths from acute diarrhœa, 5 from chronic diarrhœa, 4 from dysentery, and 2 from typhoid fever, and he states that the epidemics "have included officers and servants, as well as patients."

Disinfection was practised assiduously. In 1867 Dr. Browne complains of water containing organic impurity. "Some earth closets have been supplied to the dormitories on both sides."

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In 1868 he blames impurity of water, overcrowding and imperfect ventilation of sewers for recurrence of enteric, diarrhœa and dysentery. In 1871 Dr. Browne blames impure water, defects in drainage, severe season and confinement of patients in wards, gradual deterioration in physical and mental condition of patients, and absence of fresh vegetables. In 1873 he begins to excuse deaths from diarrhœa and dysentery, and refers to the exhaustive and complete *post-mortem* examinations.

In 1881 Dr. Major, referring to an epidemic of dysentery and diarrhœa, could not trace the cause, but blamed atmospheric conditions and improved the drains by disconnecting soil-pipes from sewers and by ventilating drains. He then seems to have given up the matter except as regards an occasional reference to dysentery and diarrhœa, until 1884, when a severe outbreak of typhoid occurred and the Committee decided to spend £8000 in improving the drainage.

In spite of this intestinal diseases continued to appear in the yearly reports, and in 1892 Dr. Bevan-Lewis called in Dr. Whitelegge to inspect the institution. The latter concluded that the air-flues were permeated by ground air. The diseases, however, continued, and in 1893 a strong drain-smell in ward 18 was noted, and in 1894 the question of drinking-water was again raised, this time from that filtered through impure charcoal.

In 1895 Dr. Bevan-Lewis regarding 29 cases of enteric fever on the female side, states: "It was during the progress of these alterations, when the old air-flues were being disturbed, that the outbreak of typhoid occurred; and there can be no doubt from the exclusion of all other possible sources of communication that we had here the explanation of the epidemic."

In 1900 there was a severe epidemic in the male wards of "dysentery" and in the female wards of "severe epidemic colitis." Neither water, milk, nor food was to blame, and none of the staff suffered. He refers to the "extremely long period of infectivity" after an attack.

In 1902 Dr. Bevan-Lewis, referring to deaths from "colitis," speaks of "The highly infective nature of asylum dysentery . . . and the necessity for strict isolation . . . which have been so much emphasised of late, have been facts long recognised and acted upon in this asylum."

In 1903 he speaks of "chronic constipation increasing the vulnerability of the intestinal tract to the specific microbe," and started weekly saline aperients to the whole of the male inmates. Much improvement followed. He did not dispute the facts of the existence of a specific organism and of infectivity,

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and remarks, " In view of these facts it is of course apparent that the treatment advocated will be liable to occasional failure."

In 1909 he summarizes the results of his prophylactic treatment as follows:

	Cases.	Deaths.
1902, last three quarters . . .	48	11
1903, first two quarters . . .	46	16
(Special treatment commenced.)		
1903, last two quarters . . .	11	2
1904	8	1
1905	3	0
1906	6	4
1907	1	1
1908	0	0
1909	1	1

Soon after taking up the office of director in 1910 I found that there was urgent need for a systematic investigation into the incidence, causation and control of intestinal infections, and this was at once commenced under my personal direction.

I do not propose here to refer in detail to the clinico-bacteriological inquiry undertaken in our laboratories since the year 1910 and regarding which the ninth post-war Report to the end of 1927 has been completed and forwarded to the Board of Control.

The methods evolved during our investigations from both clinical and bacteriological aspects will be the subject of papers during this meeting.

I would merely remark that the views regarding the infectivity of dysentery which were held in this asylum upwards of a century ago remain true.

Dysentery is an infectious disease usually transmitted by such chronic cases as still excrete the specific bacillus (one or other of five members of the Flexner group). It is not peculiar to the insane. It is readily spread by neglect of the necessary hygienic measures. Such neglect is liable to occur in a large institution, for the failure of one link in the chain of precaution can start an epidemic. Dysentery can be introduced into an institution by new admissions or by entrants to the staff, unless proper precautions are taken. Epidemics are very likely to occur when new strains are imported. Agglutination tests are valuable as indicating infection or ingestion of the specific bacillus, but the certain test is the discovery of the bacillus in the stools.

Enteric fever and diseases of the paratyphoid group differ from dysentery chiefly in the facts that the bacillus is motile and infects

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the gall-bladder and bile-ducts, being readily retained and excreted for long periods, that it exists during attacks in the blood, and that the agglutination tests appear to indicate infection only. I, of course, exclude here the subjects of inoculation. The only certain test is the discovery of the bacillus usually in the blood, bile or stools.

I append a table of the incidence of dysentery and enteric in Wakefield Mental Hospital during the years 1910–1927:

	Dysentery.				Enteric, etc.		
Year.	Male.	Female.	Total.	Proved bacteriologically.	Male.	Female.	Total.
1910	..	11	11	..	..	..	..
1911	9	18	27	12	..	..	..
1912	33	27	60	39	1	7	8
1913	39	61	100	58	..	4	4
1914	40	17	57	18	..	7	7
1915	101	81	182	27	15	10	25
1916	113	75	188	6	2	12	14
1917	250	124	374	5	5	10	15
1918	63	32	95	1	..	4	4
1919	11	33	44	24	..	1	1
1920	5	8	13	13	..	5	5
1921	6	8	14	14	1	3	4
1922	5	4	9	9	..	2	2
1923	..	..	..	..	..	..	..
1924	3	1	4	4	..	..	..
1925	19	2	21	19	..	3	3
1926	14	24	38	35	..	3	3
1927	..	4	4	4	..	6	6

Speaking for workers in our laboratories, we are convinced as the result of our prolonged study of the subject that these intestinal infections are much more common and much more difficult to control than is generally believed, and that clinico-bacteriological investigations to be of any value at all either for diagnosis or treatment must be performed by intelligent, skilled and trained workers. Amateur investigators are liable to do harm rather than good by inducing a false feeling of security.

Wakefield and Scientific Progress.

With the exception of its periods of extension and elaboration under Drs. Corsellis and Cleaton, Wakefield Mental Hospital has, throughout its history, taken its full share in the work of scientific progress.

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The Genius of Sir William Ellis.

The first director, Dr. Ellis, projected in Wakefield, and later on published from Hanwell, a treatise on insanity which it is difficult to believe was published in 1838. The following extracts illustrate views on the development of brain and mind and on the causation of mental disease which might have been written to-day. Reference has already been made to the humanitarian attitude of Sir Wm. Ellis towards the subject to which he devoted his life.

Brain and Mind.

"We have every reason to believe that all living beings, from the smallest insects to the largest animals, possess such a portion of mind, or instinct, as mind in animals is usually called, as is adapted to their several conditions. Some require no more than is sufficient to direct them in the choice of food, to warn them of danger, and to induce them to procreate their species. In these the corporeal machinery is exceedingly simple. They are furnished with ganglia and plexus of nerves, but are without brain. When the powers of instinct are more extended, we find, in addition to a more elaborate development of the nervous system, a cerebral organization.

"Ascending in the scale of creation, we arrive at man. He possesses a bodily organization and mental faculties, of a nature similar to those observed in animals, although much more perfect in their kind. But, in addition to these, he is endowed with higher and nobler faculties. He has, and ever has had, the capability of knowing, worshipping and loving God, and receiving the influences of the Holy Spirit. And this distinction exists wherever man is found: at the poles, or at the equator; in the white-skinned European, the sable African or the American savage; and it is a distinction which can never be obliterated. What then do we observe in the formation of man, uniformly distinct from that which exists in all other animals? A more elaborate cerebral organization, and a great multiplication of its parts, many of which are not found in any other animal whatever, although there is no other part of the human body which is not, more or less, developed in one species or another. Now, in each class of animals, there appears to be a certain limit to the manifestations of mental power; and it is exceedingly probable that, in the individuals composing each class, there exists a great difference in their capabilities. We know that in various quadrupeds, and the higher class of animals, such a difference does exist, and in

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man, more particularly, to a very great degree."—*Op. cit.*, pp. 13–14.

The Nature of Insanity.

"Now, can we not trace such a connection between our intellectual manifestations and the brain and nervous system? We have seen that in animals, where little mental power exists, there is a proportionate absence of cerebral organization; and that in man, where such mental powers are found in the highest degree, the cerebral organization is the most elaborate. Again, when in man, the whole brain has become torpid, either from the effects of chronic inflammation, or pressure gradually taking place from the morbid secretion of serum, slowly distending the ventricles and membranes, an alteration takes place, and he is reduced in point of intellect to the level of the lowest animals; he is capable of taking his food, but all other voluntary action is lost, in proportion as the pressure and diseased organization increase. Now, what is the case when the brain is excited to an unusual state of activity? We find a corresponding alteration, that is, an increased activity, in the mental manifestations. . . . In phrenitis, where this increased action of the brain amounts to acute inflammation, the violence of the mental manifestations corresponds with the activity of the disease; and when, by cold applications and proper medical treatment, the inflammatory action is removed, the mind recovers its tone; but the intellectual powers and feelings are never completely restored, if the inflammatory action has remained unsubdued until the organization of the brain and its membranes has become permanently injured. This is found, on dissection, to be the case in all instances where the insanity has been the result of phrenitis. Now it is quite clear, that every other part of the body may be diseased or even totally destroyed, and still, if the brain continue to be healthy, the mental manifestations will remain unaffected.

"May we not then, from these instances, fairly conclude that there is a necessary connection between the mental manifestations and the state of the brain; and that, at all events, in these extreme cases of complete torpor and excited action, the injurious alteration which results in the intellectual manifestations and the conduct, is to be traced to the state of the brain?"

He here gives several examples to prove his point, and then adds:

"I should have not thought even this necessary, had not my

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experience been so much at variance with that of Messrs. Esquirol and Pinel, whose authority on this subject has been so much looked up to, especially in France."—Pp. 17–20.

Later he states :

"As insanity has been considered, in all cases, to be a disease of the brain or nervous system, one of the most obvious divisions will be according to the nature of the disease which exists there."—*Ibid.*, pp. 146–7.

The Exciting Causes of Insanity.

"From what had already been said on the subject, it appears that insanity may be traced to three classes of causes, *viz.*, direct physical injuries of the brain, over-excitement from moral causes, and diseased action in it from sympathy with some other part of the body."—*Ibid.*, p. 324.

"Indeed I am convinced, that with very few exceptions, a right and religious disciplining of the mind, with a judicious and careful selection of the walk in life, and a prudent management of the body, would exempt mankind from the horrors of this painful and mysterious disease."—*Ibid.*, p. 331.

Fitness for Discharge.

"The instances, indeed, in which an individual can with safety be allowed to go at large, when his sentiments or his feelings are affected, will not be so numerous as when the disease attacks the intellectual faculties only. For it is much more easy to fulfil the relative duties of life with diminished powers of perception or reflection, than to act correctly when under the influence of deranged and excited passions."—*Ibid.*, p. 39.

Publications.

I have already referred to the valuable monograph on cholera published by Dr. Wright, visiting physician.

During Dr. Browne's period of office the six volumes of the *West Riding Medical Reports* were published. These contain a wealth of scientific papers, comparable, although published nearly sixty years ago, with the *Archives of Neurology* of the London County Council, edited by the late Sir Fredk. Mott. The outstanding example amongst these papers is that by Ferrier on the experimental researches on the localization of cerebral function, which he carried out in the Wakefield laboratory during the year 1873.

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In 1882 Dr. Bevan-Lewis published a monograph on the examination of the brain, and in 1889 his well-known *Text-book of Mental Diseases*, a second edition of which appeared in 1898.

This record of work during the nineteenth century for the advancement of knowledge in our specialty is, I believe, unique, and we shall find it difficult during the present century to rival it, and especially so now that the scientific study of disease has become widespread.

The D.P.M. of Leeds University.

In one detail, however, we have an advantage over our predecessors. We are no longer isolated, and through a much closer relationship with the centres of teaching and research in the Universities shall necessarily derive inestimable benefit. The first fruit of this is to be found in the diplomas in psychological medicine, first initiated by the University of Leeds in 1911, which are now a necessary part of the equipment of the budding alienist.

The practical work in pathology includes laboratory methods and also *post-mortem* experience, and the standard is maintained at an honours level.

Since the inception of the diploma the external examiners have been successively the late Sir Thomas Clouston, Dr. Percy Smith and Dr. C. Hubert Bond.

Wakefield Mental Hospital of To-day.

I shall conclude my address by a short description of the Wakefield Hospital of to-day.

In 1910, owing to the recent extensions which for the time had rendered it difficult to administer, the asylum had come to be governed as a series of separate departments, with a considerable element of home rule. Shortly after my appointment, County Alderman Benjamin Crowther, then Chairman of the Committee of Visitors, one of the wisest old men I have known, remarked to me, "What Wakefield needs is a director, not a superintendent." During my association with him, which lasted till his death a year ago, he never once proferred his advice and never once withheld his support. I think he lived to see our complicated hospital working as the unit he desired. It is an interesting detail that at its inception this hospital suffered severely in consequence of the enmity of a Crowther, and a century later owed untold benefit to one of the same name.

At the present time the hospital consists of fourteen isolated buildings, containing patients varying in number from 25 to 1,000.

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Our present total of patients is 2,360 and of staff of all kinds 667.

The greatest change which has occurred during the past eighteen years and which has rendered the hospital almost unrecognizable has been the dismantling of all useless buildings and the removal of all the high encircling walls, which made the old Wakefield Asylum rather like a Chinese city.

The confined and dank airing courts have thus been extended and converted into spacious gardens, and the surroundings have been grassed, replanted and generally modernized until the hospital and its precincts resemble some of those modern institutions which have most impressed me in different parts of the country.

The older buildings are undergoing steady and gradual modernization, according to a definite plan which should eventually render them both hygienic and convenient, although it will inevitably considerably decrease the resident population.

The patients, instead of obtaining occasional outdoor exercise, somewhat as do prisoners in gaols, now spend the whole day out of doors during the greater part of the year and take their meals out of doors.

Throughout the year, except for such occasional storms as prevent their transfer, all bed and restless patients spend the day in tents, of which we have some 20, each capable of holding on the average 20 beds each.

Seven male wards, including the chief sick-wards, are staffed by female nurses, nearly sixty women being employed.

Extensive parole is granted to male patients both inside and outside the grounds, and both male and female patients frequently visit their friends, often staying with them for one or two days. This has been rendered possible owing to the fact that the hospital clothing now approximates, through the great interest taken in it by the Committee of Visitors, to that of the general public. Patients, particularly females, are also permitted and encouraged to wear their own clothing, stockings and shoes, and in the case of those who appreciate it, dresses are made to their own choice and taste. In consequence of this, at a sports meeting it is quite impossible in very many cases to distinguish hospital patients from visitors.

The day lasts from 6 a.m. to 10 p.m. for the ordinary patients, who thus live more natural lives than in the past and sleep more healthily.

With us the manufactured lunatic is, I hope, for ever a thing of the past.

We have no works master and no industrial trainer, and no handicrafts department. Following our method of evolution for

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upwards of a century, all possible patients work according to their capabilities in all parts of the hospital, the males chiefly at handicrafts, gardening and farm work, and the females at sewing and domestic work of all kinds. Very many patients only differ from paid workers in the fact that they are certified insane.

The boys at Hatfield Hall practise various industries and keep a farm of their own. A large number of women inmates, under the voluntary guidance of a lady member of the medical staff and several High School teachers, have weekly recreation and working classes, studying handwork, fancy dancing, languages, etc. I must not forget to mention the products of our sewing-room, many of the fancy dresses at least deserving to rank as works of art.

I wish to make it clear that we claim to do nothing unusual here and that we do not do everything done elsewhere, but we hold that the hospital and the patients gain the maximum possible benefit from our activities.

The staff has been much increased, and nurses now work a three-turn day of 52 hours weekly. All live out, usually at their homes, which are often several miles away from the hospital, and travel to and fro by 'bus or cycle. It is common for the senior nurses to take favourite patients out for the day.

The staff have an active athletic club, which they manage themselves, and they form a much more united body through the medium of whist drives, dances and games than ever existed in the past, when nearly all lived indoors, and either spent their time-off in bed or rejoiced to escape from the precincts of the hospital.

The conditions required by the General Nursing Council regarding bedside nursing are strictly observed, and all our nurses attend systematic lectures and practical teaching by the medical and nursing staffs. Promotion is by merit and general capabilities. Perhaps in the future, certificates of examination followed by General Nursing Council registration will become common. At present we prefer to trust to our training, which is that of the General Nursing Council, but we grant facilities for attending nursing examinations, and, where possible, give credit and promotion to those who are successful in passing them.

The laboratory is the heart of the hospital, and all entrants to the staff and all patients pass through it. Together with the *post-mortem* room, the operating theatre, the X-ray room, etc., it is the centre of the work of the medical staff, which is encouraged in every way to be self-contained and not to limit its activities purely to psychiatry. At the same time, in cases of difficulty or doubt, or where special treatment or appliances are needed, outside help is requisitioned.

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The Wakefield Mental Hospital medical work is co-ordinated, and the staff help one another in their medical, surgical, laboratory and psychiatric work.

The discharge of patients and recommendations for discharge on trial or on undertaking, the giving of Harrison Fund grants, etc., are discussed at regular meetings of the senior staff after interviews with the patients concerned.

Post-mortem examinations are conducted in the presence of the entire medical staff. For obvious reasons this does not apply to operations.

The general and special laboratory investigations are carried out with the assistance of two trained laboratory assistants.

I am myself in every form of activity the director, not the superintendent.

Ever since the University of Leeds instituted its diploma in psychological medicine all permanent medical officers, as well as several from neighbouring mental hospitals, have been trained for that diploma. At present, of the six assistant medical officers in this hospital, five possess the diploma and the sixth is a new arrival amongst us. There is little doubt that several former assistant medical officers who have gained promotion elsewhere owed their success to the possession of this qualification.

From the co-ordinated medical staff, through the general staff, down to the patients, the whole administration of the hospital is that of an organism rather than of a machine. The truth of this statement can, perhaps, only fully be appreciated by a resident in a hospital with the traditions of Wakefield.

Here the staff are trained to work, not for a superintendent or a committee, but for Wakefield. In spite of occasional bad lapses this has always been true throughout our history.

In many of the larger reforms introduced, only because of the hearty co-operation of the staff and patients, I have been most successful. I have succeeded solely because Wakefield has agreed. On the other hand, it has taken years to overcome the passive resistance to minor administrative changes, the meaning or value of which was not obvious; and for years after I first became director I was conscious of the fact that Wakefield was doubtful as to whether I really knew my work or was merely endeavouring to air my personal fads. Such is the effect of tradition, and such is the reason why I state that Wakefield can be regarded as a living organism. I have but one word to add—the same tradition properly applied which is responsible for the ready acceptance of new ideas when proved of value is responsible for the 100% of efficiency at which all aim, and not unsuccessfully. No one can say that in

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Wakefield we do not do things but merely hope to do them. Probably most things done here are individually done better elsewhere, but I think it unlikely that many hospitals exist with a higher general standard of efficiency in comparison with intention. As an instance of this one may cite the attitude of the staff towards the Board of Control. Is it one of fear? Far from it. With all respect, we think in Wakefield that we know better how to do our work than do the Lunacy Commissioners, and we judge them far more severely than they judge us. I think, in fact, that in miniature we are a fair sample of the county to which we belong, and which we regard as the leading county of England.

You are, during this meeting, the guests of Wakefield; every part of the hospital is open to you, and I hope that you will test the truth of my words, and thereby acquire a first-hand knowledge of Yorkshire and its people.

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THE VALUE OF PSYCHICAL RESEARCH TO THE PHYSICIAN.*

By W. H. Maxwell Telling, M.D., F.R.C.P.,
Professor of Medicine, University of Leeds.

I should not have ventured to read this paper before such a distinguished audience had I not been specially urged to do so by your President. If, therefore, at its conclusion you have any or, it may be, much criticism, you must at least divide it between him and myself. I accept full responsibility for an inadequate and imperfect presentation of my thesis, but for the attempt itself he must take all the blame.

Ever since 1916 I have been closely interested in problems of psychical research and from that study I emerge convinced of one fact—that it is indispensable to certain types of mind and to certain branches of study. The whole field of human knowledge is so vast that no one of us can hope to encompass anything like all it includes, and so we are compelled to specialize and select. To the philosopher whose special field of inquiry takes him into mental science and the metaphysical generally, there is no doubt that a close study of psychic science, including the so-called supernormal phenomena, is absolutely essential. One cannot conceive that a philosophy based solely on a knowledge of material facts and phenomena can lead to a full apprehension of the central truth of things.

Now, a physician should be something of a philosopher, though he may never specialize in that field. Yet his opportunity for contact with the whole range of human experience is such that it is imperative that he should devote attention to anything that is likely to be of special importance in that field. Then, as to the psychologist, whether he be a physician or not, it is inconceivable that he should regard himself as fully equipped in his special study without having devoted much time and profound consideration to the problems which psychic science presents for solution. There may be some amongst my audience who, though undoubtedly highly specialized psychologists, have so far given scant or even no attention to this particular branch of study. My words will sound like something of a reproach to them, and may even provoke a little

* A paper read at the Annual Meeting held at Wakefield on July 13, 1928.

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resentment. If this be so I am sorry, as I do not desire to speak with any intellectual arrogance; for in all humility I travel back to those years, prior to 1916, when I was ignorant of the value of this line of research. I can, however, say that my previous neglect of it was due to lack of time and opportunity, tinctured not a little perhaps with a very real laziness, rather than to any judgment as to its possible value, based on *a priori* notions.

A priori judgments are a negation of true science and of the sincere prosecution of truth. It is an honest attitude to say, "I have not had time to look into this matter and therefore I have an open mind," but it is scientifically dishonest to say, "I have not looked into this matter because I do not think it worth it and it would only be waste of time." If there be any in my audience who have hitherto taken up this attitude, I offer this paper as a direct challenge and make no apology for so doing.

I start, therefore, with this pronouncement: That to any of us who are engaged in the study of human life and experience, particularly when that study is to be turned into practical application by healing and alleviating human distress and infirmity, whether physical, moral or mental, this study of psychical phenomena is absolutely essential.

Why is it necessary that one should preface a paper like this to a society of intellectual people, such as this, by any kind of apologia? "*Qui s'excuse s'accuse*"—in the main a true saying, but, like all generalizations is open to exception. This is one. There is no doubt that the study of psychic phenomena, up to a comparatively recent time, has been regarded as not quite "respectable." By this I mean not *scientifically* respectable, and this in spite of the long list of distinguished savants whose names have adorned its study. The explanation which is often offered to explain their interest—one becoming increasingly difficult with the impressive lengthening of the list—is more or less that they have a "kink" in spite of their undoubted abilities in other and "safer" directions. Yet one of the most striking facts about psychic research is this: the more scientific and balanced the individual, and the more seriously he takes up the study, the more certain he is to emerge, if not with a positive conviction as to the how and why of these things, at least with respect for the scientific importance of the subject. Science has the whole field of fact at its disposal, and it is no part of the scientific equipment to deny or belittle any form of inquiry into any kind of fact until that inquiry has been fully made and its relative importance correctly estimated. There is also no justification for aspersing any line of research, merely because many who prosecute it do so foolishly or even unworthily.

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The material alchemists—I distinguish these from the philosophical alchemists, for whom the alchemic system was purely symbolic—studied and worked in this way, yet out of their study has grown the practical science of modern chemistry. I think it can be shown that out of the study of psychic phenomena has developed a deeper knowledge and understanding of mental and moral phenomena, and a truer conception of the subconscious mind and its latent powers, than could have emerged from any other line of investigation.

Psychical research is a new science or department of science, and its range is wide. It deals with many phenomena the very existence of which is not yet recognized by orthodox scientific bodies, though it is to be noted that the British Association allowed a paper to be read on psychical matters, by Dr. T. W. Mitchell, at their meeting in Leeds last year. That meeting will be regarded as historical. It marked a turning-point in this branch of study, as Sir Oliver Lodge rightly commented and many of us felt; because for the first time telepathy was accepted as an established, scientifically respectable fact. Not unanimously, of course, but anyone present to-day who was present at that meeting of the Psychology Section will know the truth of what I am trying to convey.

Let me at once enumerate some of the matters comprised within this new and wide-ranging science—indicate some of the lines of research and inquiry.

On the purely mental side it is found that there are deep and latent powers and qualities in the human mind. In the condition of trance these are liable to be revealed in phenomena which raise the whole question of mediumship, possession, thought-transference and foreknowledge in the most far-reaching way. The study of the accumulated and established facts carries one irresistibly to at least two possible hypotheses: that of a telepathic function of the human mind, and that of survival after death. This latter hypothesis has undoubtedly been too readily, too eagerly accepted—for it answers a deep hunger in the human heart—on the one hand, as it has been too dogmatically and even savagely rejected on the other. It is a matter neither for credulity nor for passionate prejudice, but for detached and critical survey. If it be true, no sane or intelligent person can deny its vital importance to humanity, reinforcing, indeed confirming, as it does, the whole basis of our traditional religious faith and conviction. We may, and should, remain unmoved by the fact that the credulous have exalted—or degraded—it to the cult called spiritualism, and found therein a new religion. As physicians we do not laugh at our patients' credulities; we try to understand them, to discover if

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there is any substratum of truth underlying them, and then gently and sympathetically to moderate their erroneous and over-credulous inferences.

How can we do this if we don't know the facts? A doctor who has not studied these problems is at an obvious disadvantage in talking to the most credulous spiritualist, who at least has read his subject, and in addition has probably obtained first-hand evidence in support of his reading. Doctors, of all people, are continually faced with the problems and tragedies which death brings to so many homes, and it is surely up to them to acquire at least a working knowledge of facts which can bring so much comfort where otherwise there is none.

Then there is the whole range of physical phenomena, with the homely table-turning at one end of the scale and the astounding phenomenon of complete materialization at the other—a domain in which fraud has abounded, but none the less worthy of close scientific study, such as was given to it by Sir William Crookes and Dr. Crawford, or to-day by Prof. Richet.

For a table will do all that Sir Oliver Lodge says about it. Of that simple basic fact there is no manner of doubt for anyone who will take the least trouble to acquire evidence. It has nothing to do with the matter that we may dislike it; that it may appear at first to be unbelievable; that it may upset our views on physics generally. All that matters to a scientist is—"Is it a fact?" If it is, it is worthy of investigation, so that its significance and possible usefulness may be determined.

There already exists a body devoted to the study of these problems, making it both easy and respectable for any doctor or scientist to follow them up. This is the Society for Psychical Research. It is in no sense a propagandist body; that cannot be made too clear. It exists for investigation, and has no corporate opinion. Anyone can be a member if he thinks the phenomena with which it is concerned are worthy of investigation. I myself was proposed by my old chief, Sir Cooper Perry. Its methods are strictly scientific, for it proceeds by observation and classification of facts, followed by cautious inference. No scientific man can quarrel with the method, though there may be many interpretations of the facts observed and classified; in other words, their explanation is debatable. This is so in all inductive sciences; observations are made and classified; then inferences are made as to how that state of things came about—that is, what the causes were. In inductive sciences various hypotheses are usually tried, in explanation of new facts, until the most satisfactory one emerges and survives by being on the whole the fittest. A hypothesis becomes a theory when it

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is linked up with other theories and takes its place in the mosaic which is the body of organized knowledge of the Universe. The Society for Psychical Research realizes that its subject is difficult, and its annual leaflet says: "The aim of the Society is to approach these various problems without prejudice or prepossession of any kind, and in the same spirit of exact and unimpassioned inquiry which has enabled Science to solve so many problems, once not less obscure nor less hotly debated. The founders of the Society always fully realized the exceptional difficulties which surround this branch of research; but they nevertheless believed that by patient and systematic effort some results of permanent value might be attained."

So much for method. Let me now sketch something of the detail, though there is not time for much illustrative case-presentation; that must be studied in the *Proceedings* of the Society.

One of the most important features of psychical investigation is its study of the subconscious and its powers. Long before Freud, Jung and the psycho-analysts, Frederic Myers was mapping out the subliminal consciousness and recording the results in the *Proceedings* of the Society, finding therein the explanation of hysteria and various psychoses. He drew largely on his knowledge of what had been done abroad, particularly in France by Liébault and the Nancy School, in medical treatment by suggestion; and two medical members of the Society for Psychical Research—Dr. Milne Bramwell and Dr. Charles Tuckey—confirmed these methods and results in their own practice. They published the best books in English on the subject of treatment by suggestion. I am not sure that the modern Freudian school has not to some extent been led on a false track. The results of suggestion were so good that it seems a pity the method was not continued and extended, instead of a total change being made to the lancing of psychic abscesses by dream interpretation and the like. Some, at least, of the Freudian accounts show plainly that suggestion is really being used all the time. If the patient is told that when the cause of his phobia is found he will immediately be free from it, that is suggestion; and it might work equally well if he were told that at the end of a given period of treatment of *any* kind he would find himself recovered. My point is that in psycho-analysis there is a good deal of suggestion, though the writers, to some extent, seem to overlook it. During and after the war there was a wholesome return to suggestive methods, as at Seale Hayne Hospital, where remarkable cures of shell-shock were obtained. As to the terminology, I think here again the terms of Myers and the Society for Psychical Research workers are to be preferred to some of the foreign variants, such as "unconscious,"

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which is surely unsuitable as a name for any part of the mind. Myers's term was "subliminal"—beneath the threshhold—while "supraliminal" is applied to the normal waking consciousness. Altogether I think that the survey of human faculty in Myers's great book, *Human Personality and its Survival of Bodily Death*—whatever we may think of his conclusions in the Survival part—has been too much overlooked. It is a masterly presentation, the result of a lifetime of study, and is worthy of more attention than it has received. It is, of course, recognized by many; William James, a medical man and the leading psychologist of his time, was generous in his praise of Myers, who, in his opinion, had "discovered" the subliminal and had blazed the trail into new departments of psychological inquiry.

It is natural that this subliminal part of the mind should have its own powers and faculties, which we shall discover in due time. One of them seems to be now almost established; in fact, I think that most members of the Society for Psychical Research would say that the existence of this faculty is now proved. I refer, of course, to telepathy—the transference of ideas from mind to mind through channels other than the known sensory ones. The definition was carefully framed, and you will observe that it holds good, even if the transference is by some physical process dependent on brain or other activity. As a matter of fact, no brain-waves have yet been discovered, and there is some reason to believe that the process is not one of ether-waves; but nothing is yet certain as to this question of process. The reality of telepathy is suggested by many lines of converging evidence. The two main lines, so to speak, may be called the spontaneous and the induced.

Spontaneous cases are such as are described in the "Census of Hallucinations," published in vol. x of *Proceedings of the Society for Psychical Research*, which gives the results of three years' investigation by means of a *questionnaire* sent out to 17,000 people. Prof. Henry Sidgwick and F. W. H. Myers were on the committee, with other experienced and careful investigators. It was found that many people, of perfect sanity and health, had had impressions coinciding with something happening at a distance; for example, an apparition of a certain person would be seen, and that person was found to have died at or about the same time. Of course, possible expectancy and many other things had to be taken into account, and some discounting had to be done; but after making all possible allowances, it was found that the odds were heavily against a chance-coincidence explanation—about 443 to 1. In other words, some unknown cause was at work, and this apparent communication in some way not understood is what we mean by

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telepathy. In the case of an apparition of a person not known to be ill or in any danger (*i.e.*, expectancy being eliminated), it would almost seem that the influence came from the spirit after its liberation from the body of the person seen; but this is difficult to establish, and to be on the safe side the committee contented itself with the hypothesis of some supernormal communication, without prejudging the more debatable matter. The impulse might have been sent out before death, the perception remaining latent for some little time in the mind of the percipient. I think no one can study the "Census of Hallucinations" or the large volume called *Phantasms of the Living* (of which a new edition was brought out not long ago by Mrs. Sidgwick) without realizing that there is at least evidence for a supernormal agency of some sort, and that the subject is worth investigating. The *Proceedings* of the Society give further cases as they are encountered, with full evidence for and against a supernormal explanation. We have, perhaps, been too ready to dismiss all such experiences as "hallucinations," and to suppose that they indicate mental derangement or something of the sort. But we now know that these things may be experienced by people who are sound both physically and mentally, and that they are not necessarily subjective only; there seems at least in many cases to be an external cause for the experience, that cause usually being an activity or emotion in the mind of some distant person. It is tempting to speculate about the process and to use the analogy of wireless telephony, but it is better to leave such speculations to a later date. We may be content at present with the established fact—established, in the opinion of those best qualified to judge—that in conditions not yet fully understood there is communication between mind and mind through channels other than the known sensory ones. Accordingly, it is well for medical men to bear this in mind, and to take careful note of abnormal experiences, such as apparitions and the like, when reported by patients, with date and time, and before verification, in case it should turn out to be a veridical or truth-telling experience. From the point of view of the patient, also, it is good to take such experiences as not necessarily alarming, at least in a pathological sense. Sympathetic interest may be better than bromide. Of course, I am not denying that many hallucinations are entirely subjective, due presumably to some abnormal cerebral or neural state; I am merely pointing out the possibility of a hallucination's having an objective cause at a distance, though we do not yet know how that cause operates to produce the effect.

If, then, mind can affect mind spontaneously in this way, it ought to be possible to bring the phenomenon to book in some

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experimental way. This has been done, to such an extent that experimenters who began as sceptics have been completely convinced, though there are all shades of opinion, as indeed it is well that there should be. The great advantage of experiment is that conditions can be pre-arranged, and the subjects so chosen that mathematical analysis can be applied. For example, if *A* chooses a card at random out of a shuffled pack, looks at it, and then *B* tries to "guess" what it is, we should expect one success in 52 by chance alone; if successes were greater than 1 in 52 there would be reason to suspect that *A*'s mind transmitted some information about the card to the mind of *B*. Naturally we should require many experiments, a large mass of data, and stringent conditions, before being forced to such an unorthodox hypothesis. But to such a hypothesis many investigators have been driven, after long and careful experiment. In one series of such experiments it was shown that the odds against explanation by chance alone were 10 millions to 1. In almost any other department of inquiry this would be regarded as proof.

Perhaps the most interesting telepathic experiments of recent years have been those carried out by Prof. Gilbert Murray and his family, in the presence of Lord Balfour, the Rt. Hon. Gerald Balfour and others. These were described and analysed in *Proceedings*, vol. xxix, pp. 46–110. Prof. Murray would go out of the room, and those remaining would decide on something which they would try to transmit to him on his return. On one occasion, for instance, they thought of Savonarola in Florence, and the people burning their pictures and valuables. Prof. Murray came back, waited for impressions, then said, "This is Italy," then "This is not modern." He hesitated, and a bit of tarry coal fell out of the fire. He smelt oil or paint burning, and then got the whole scene. He remarks: "It seems as though here some subconscious impression, struggling up towards consciousness, caught hold of the burning coal as a means of getting through" (*Proceedings*, vol. xxix, p. 59). This is merely an illustration; the whole record should be read and studied. There are various alternative guesses, such as hyperæsthesia and the like; these have to be taken into consideration and the most probable hypothesis adopted.

If telepathy is a fact, I suggest that it is an important one. Indeed, it is difficult to exaggerate its importance. It is a newly discovered power of the mind; and inasmuch as the mind and body are closely connected—whatever our philosophy as to their nature may be—and inasmuch as the physician often has to deal with both, it is desirable that doctors should know all that can be learnt about mental activities. We never know what new light may be

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shed on possibilities in the way of treatment, by each new discovery in either physical of psychological science. Perhaps particularly for the alienist, researches in the domain of the subconscious, discoveries of its hidden powers and functions, may have important outcomes, the nature of which we can as yet hardly surmise.

If one adopts this telepathic hypothesis, at one blow one goes a long way towards demolishing, and one certainly casts the gravest doubt upon, the long-favoured hypothesis of psycho-physical parallelism. The pure materialists, who abound quite as much among psychologists as among physicists, have persisted in regarding thought as a function of the living brain, ceasing absolutely when it ceases, and therefore being bound by purely physical laws. If we are compelled by our studies to recognize that in some way, whether physical or super-physical, thought can pass across space from one brain to another, we have a hypothesis which undermines the whole materialistic structure, and provides a starting-point for a new religio-scientific philosophy based on surer grounds than that of mere faith.

I should therefore like to go a step further, into still more perilous regions. It is believed by many—I suppose by all religious people—that there is something in us that survives the death of the body. Until recent times it was thought that this must be a matter of faith alone; by some it was thought to be an outworn superstition. But it has been found by students of psychical research, or rather by those who have made careful personal investigation of its problems, that there are certain facts which seem to indicate the operation of minds no longer in the flesh. I will not trouble you with details; they can be found in the *Proceedings* of the Society for Psychical Research, and such books as Sir Oliver Lodge's *Survival of Man*, and Sir William Barrett's *Psychical Research*, *On the Threshold of the Unseen*, and *Deathbed Visions*. The latter book is, perhaps, of special interest to us, for it was published by Lady Barrett, who is herself a distinguished member of the medical profession, and it refers to matters which are likely to come under the notice of some of us. It is found that many people, when dying, seem to see the forms of some of those who have gone before; these friends seem to come to meet them, so to speak. Naturally it is possible to explain some of these incidents as being subjective hallucinations; but there is sometimes a difficulty in such an explanation, as, for instance, when the dying person sees someone of whose death he has not been told. On the whole, and in view of other confirmatory facts, it seems well worth while for medical men to take careful note of anything of the kind that they may witness at deathbeds. But the evidence for survival is much more

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extensive than can be indicated by mention of one or two books; I can only repeat, at the risk of being tedious, that the evidence should be studied in full in the publications of the Society.

The main difficulty in accepting the most obvious so-called spiritistic hypothesis is the telepathic one, though curiously it cuts both ways. If in any kind of communication purporting to come from the other side the facts given are known to anyone living, it is at least possible to suppose that they have come from some living mind. This is to be taken into consideration, and due weight allowed to it. But in some cases it seems to be excluded, and on the whole it would appear that the evidence is gradually tending to render telepathy from the living an unsatisfactory solution. I make no definite pronouncement, whatever may be my own preference; but I do say this: either we must credit the subliminal with greater powers than have yet been experimentally established—powers of reading minds at a distance, of people not known to the sensitive—or we must at least provisionally agree that the hypothesis of survival and communication is a rational and tenable one.

And if this is so, it has importance for the physician, even as a mere hypothesis. We are called on, often, to pronounce sentence on the body. It is nearing the end of its service, and we have to tell either the patient or those dear to him, or both. It is a painful duty, as all of us know. If we believe that bodily death ends all, we have no comfort to offer. But if we honestly believe that not only faith, but also science, can really confirm the immemorial hopes of mankind that death is not the end; if we can say that the spirit goes on after it has shed the worn-out garment; goes on to progress in scenes fresh and fair in a spiritual, perhaps an ethereal environment; to progress towards a goal which we can only dimly surmise, but which may be something beyond our optimistic dreams; if we can say that the departing one will be met and cared for by those he knew and loved while here—if we can say all this, does it not seem that our sentence will be less grim, that we may give some little help and comfort to those we see mourning? Call it moral morphia if you will, but morphia still remains the greatest of all God's gifts for the alleviation of physical pain. I would not sacrifice Truth, even for this; we must be honest. But as for me, after careful study of the subject over many years, and after some personal investigation, I can say that to me the hypothesis of survival seems justified. Here we have material bodies adapted to a material environment. In another state of existence we may have ethereal bodies adapted to an ethereal environment, and experience will then seem as real to us as experience does now—perhaps more

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real. Even physics leads us in this direction. Matter as an ultimate reality has vanished; the atom is composed of electrons, which in their turn are knots or vortices or what not in the omnipresent ether of space. Philosophically the field is clear for any scheme of existence that is sufficiently evidenced.

On the question of the physical phenomena may I dip into what is almost ancient history by a reference to the committee which was chosen by the famous Dialectical Society of London, a committee which began its explorations early in 1869 and presented its report in 1871? If common sense and the ordinary laws of evidence had been followed in the reception of this report, the progress of psychic truth would have been advanced by fifty years.

"Thirty-four gentlemen of standing were appointed upon this committee, the terms of reference being 'to investigate the phenomena alleged to be spiritual manifestations.' The majority of the members were certainly in the mood to unmask an imposture, but they encountered a body of evidence which could not be disregarded, and they ended by asserting that 'the subject is worthy of more serious attention and careful investigation than it has hitherto received.' This conclusion so amazed the society they represented that they could not get it to publish the findings, so the committee, in a spirited way, published them at their own costs, thus giving permanent record to a most interesting investigation.

"The members of the committee were drawn from many varied professions, and included a doctor of divinity, two physicians, two surgeons, two civil engineers, two fellows of scientific societies, two barristers, and others of repute. Charles Bradlaugh, the Rationalist, was a member. . . .

"The six sub-committees sat forty times under test conditions, often without the aid of a professional medium, and with a full sense of responsibility they agreed that the following points appeared to have been established:

"(1) That sounds of a very varied character, apparently proceeding from articles of furniture, the floor and walls of the room—the vibrations accompanying which sounds are often distinctly perceptible to the touch—occur without being produced by muscular action or mechanical contrivance.

"(2) That movements of heavy bodies take place without mechanical contrivance of any kind or adequate exertion of muscular force by the persons present, and frequently without contact or connection with any person.

"(3) That these sounds and movements often occur at the times and in the manner asked for by persons present, and by means of

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a simple code of signals answer questions and spell out coherent communications."

I say no more here about this difficult field; but these abundantly established conclusions form a sure starting-point for any interested student.

It has been said that all new ideas have to go through two stages of hostile criticism before they are accepted—the pooh-pooh stage and the bow-wow stage; that is, the critic first says it is all nonsense, and later on he says that there may be something in it, but that he dislikes these new-fangled ideas. And then sometimes we find him saying that he knew it was so, all along, as some theologians now seem to be saying about evolution. Evolution was certainly pooh-poohed and bow-wowed pretty vigorously.

It is somewhat thus with psychical research. The subject has survived the pooh-pooh stage, and is nearing the end of the bow-wow stage; it is rarely attacked now, except by those who are either ignorant or obviously prejudiced on religious or other grounds. People in general have learnt that it is a serious and scientific investigation. The mere reading of the published matter already in existence is an arduous task which would take a year or two of concentrated attention; and without that course of study no one is qualified to express an opinion. This is now realized, I think, and ignorant attacks on the investigation are far more infrequent than they were twenty years ago. There is a general, and, I think, wise feeling that it is best to have no opinion at all; that the experts must work away at the subject until they get somewhere, and meanwhile the public will remain open-minded and undogmatic either way. This, indeed, is the attitude of one of the leading workers in psychical research, namely, Prof. Charles Richet, one of the best-known physiologists in Europe, and formerly Professor in the University of Paris. His bent was, and is, materialistic; he is unable to conceive of the existence of consciousness except in association with a material brain; but he investigated certain psychical phenomena, and was driven to the admission that these puzzling things occur. Indeed, he was forced further than I myself feel able to go (in the admission, *e.g.*, of xenoglossia and materialization), but then he has had more first-hand experience than I have, and he may be right. Well, he admits that the things happen and that no known explanation suffices. But he will not admit the agency of discarnate spirits, for he cannot believe in such; so he labels the unknown faculty by which these things are produced "cryptæsthesia," and leaves it at that. He says he accepts the facts, but will make no hypothesis, though it would seem a hypothesis to say, as he does, that the phenomena are due to some

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hidden powers in incarnate human beings. However, it is, as I wish to point out, legitimate to refrain from all hypotheses, if that is possible. We may accept the phenomena and say that at present we see no satisfactory explanation. In regard to some of the phenomena, that is my own position. There are things, such as the Patience Worth case, for which I see no explanation; we may invent several, but no one of them seems satisfactory. So with the multiple personality cases, such as the Sally Beauchamp case and the Doris Fischer case, I am not entirely satisfied that the fashionable theory is the correct one. We must learn to suspend judgment in many cases, and this is not very easy; we crave for "explanations," even doubtfully satisfactory ones—it seems to be a natural tendency of the mind. We must learn to study without theorizing too soon, for premature hypotheses may block the way to discovery of the truth. We must "learn to labour and to wait."

I have been compelled by the limits of time and your patience to be very general and discursive—to refrain from all details of cases. Also I remember that I am addressing a profession that is traditionally and usefully conservative. The early years of our studies are so exacting and strenuous that by the time we feel we are "qualified" in our profession—and I put that time of real qualification, of course, much later than our mere University graduation—we are liable to rest too assuredly on the convictions we have by then acquired. Not unnaturally we are a little fatigued mentally, and when a whole new and vast subject is obtruded on our consideration we are unduly liable to turn it down, in one way or another, from this same professional conservatism. But is not most intellectual conservatism really mental laziness? Understandable; excusable, to a point; but always missing greatness and falling short of real scientific honesty.

May we not rather say, if we have not the time or inclination to investigate directly, that these things, at least, *may be*?

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PHYSIOLOGY IN RELATION TO PSYCHOLOGICAL MEDICINE.*

By B. A. McSwiney, B.A., Sc.D., M.B., Ch.B.,
Professor of Physiology, University of Leeds.

An invitation to address a gathering of medical psychologists is, to the physiologist, a great temptation, and on such occasions he is apt to leap into the whirlpools of psychology in an attempt to explain the workings of the brain by hypotheses based, alas, on insufficient evidence. The paucity of information on cerebral function in physiological text-books has an explanation. Our lack of knowledge is due to the absence of available methods for investigating the normal activity of the higher nerve centres. Explanations are too often advanced without a due appreciation of the function of the lower nervous system in bringing about the exquisite co-ordination and relationship that exists between the different areas and organs of the body. This function is well exemplified in the reciprocal innervation of which we have evidence with every normal voluntary contraction. The difficulties of investigation have their root in the complexity of the reactions of an animal endowed with a well-developed cerebral cortex, compared with those seen in the lower types of life, or in the spinal animal. It must be clear that if our knowledge of the physiological factors controlling mental activity is to advance, the physiologist must continue to make measurements, accurate, quantitative measurements, if possible, on structures which he can control, and on preparations in which he is able to isolate the disturbing factors, and from these results and conclusions to construct by slow degrees a knowledge and understanding of the nervous system.

It may appear that the physiologist is not adding much to the subject of psychological medicine, or that his investigations savour too much of physical and chemical methods; yet if we review the progress of the last fifty to sixty years, we become duly aware of the advances which have taken place. I am sure that at no time has activity been greater in this particular field of research than at present; witness the number of articles, papers and books

* A paper read at the Annual Meeting held at Wakefield, July 12, 1928.

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published yearly, describing the results of experimental investigations on the nervous system. This progress becomes clear when we realize that Broca first described the speech area as recently as 1861, and it was only in 1864 that Fritz and Hitzig demonstrated the excitability of the grey matter of the cerebral cortex, and by these experiments opened the door to the localization of cerebral function. The further advances in this field were due to men like Ferrier, Horsley, Bolton, Sherrington and Schäfer, to name a few, and we realize how recent this work is when we remember the present-day activities of your President, of Sherrington and of Schäfer.

These advances have been made from small beginnings, and I do not think I can exemplify this better than by referring to the work of Keith Lucas. As far back as 1872, Grünhagen had made what has been called the "gas chamber" experiment on nerve. He took a nerve-muscle preparation and passed a portion of the nerve through a glass chamber, so that this portion could be exposed to the action of carbon dioxide while the parts above and below were in the air. He tested the strength of stimulus which would cause a contraction of muscle when applied either outside or inside the gas chamber. It was later shown that the impulse would fall off less rapidly under a weak anæsthetic than under a strong one, and the explanation was advanced that the effect was due to the decrement of the impulse during its passage through the nerve. This state Lucas likened to the condition which exists in the synaptic junctions of the central nervous system.

In further experiments, using the same preparation, Lucas and Adrian were able to demonstrate the all-or-none law of the nerve-fibre. The experiments established the fact that an impulse which has been reduced in its power of conduction by passage through a region of decrement, recovers in full when it emerges into a tract of normal nerve. On this hypothesis the discharge of impulse from a nerve-cell will reach the tissue with the same maximal intensity whether the pathway through the brain has been simple or complex.

These experiments lead us to a consideration of the grading of impulses in either the efferent or the afferent systems. According to the all-or-none law, the grading effect cannot be explained on the view that the intensity of the impulse varies with the strength of the stimulus which sets it up. Again, a grading effect which depends on the number of nerve-fibres conducting seems inadequate if we consider the function of the various sense-organs. Forbes suggested that reflex response and analysis of sensation by the cerebral cortex may be graded, first by the number of sensory nerves

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conducting the impulses, and, second, by the number of impulses set up by each stimulus. Adrian has recently been able to put this view to the test; using an extremely delicate recording apparatus, he has succeeded in recording the impulses conducted in the sensory nerves on stimulation of an end-organ. The experiment is made by placing a pair of electrodes on the sensory nerves and amplifying the electrical changes, which are recorded by a capillary electrometer.

Adrian has shown that on stimulation of a single isolated end-organ in a tissue, varying frequencies of impulses are set up and conducted by the nerve according to the strength of the stimulus. More recent experiments, using the retina as an end-organ, have provided further evidence that the grading effect of the sensory system is due to alteration in the frequency of impulses set up at the periphery.

These considerations naturally lead to the questions of excitation and of inhibition, which have been so carefully studied by Sherrington in his work on the reflex arc. It was Sherrington who clearly demonstrated the chief differences between conduction in nerve-trunks and in reflex arcs. The influence of the synaptic junction was shown by the fatigability of reflex action in contrast with the comparative non-fatigability of nerve-trunks, and by the presence in reflex arcs of the refractory period, *bahnung* or facilitation, inhibition and shock in degrees unknown for nerve-trunks.

Sherrington, also, has investigated the mechanism and functional significance of muscular tonus, with particular reference to the influence of the proprioceptive arc on the stretching and shortening reactions of skeletal muscle. There is no doubt that the presence of the proprioceptive nerves brings about a delicate balance between excitatory and inhibitory activity, and is an important factor in controlling the gradual character of the response. It is obvious that the ataxic condition which is at once so striking and so pathetic a feature of tabes dorsalis, results from the absence of proper control in both the excitatory and inhibitory phases of movement.

Magnus and his co-workers have investigated the proprioceptive system from another angle. They have demonstrated the maintenance of body-posture through the static and stato-kinetic reflexes, the postural reactions of the body when at rest and in movement. The static reflexes are regulated by the stretching of the neck muscles in moving the head, by the movement of the endolymph in the internal ear, and by the tension of the eye muscles. The stato-kinetic reflexes depend on a similar mechanism for the control of posture during movement. These studies have shown, to use

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Magnus's own words, "that many different sense-organs are involved, that very different centres integrate their stimuli, that the muscles are concerned in many different combinations in the production of the reactions, and that a whole series of diverse reflex groups are balanced together."

During the nineteenth century the attention of neurological physiologists was mainly directed to the study of the functions of the lower parts of the nervous system. As a result of the work of Sherrington and others on the reflex arc, and of Magnus and his school on postural reactions, the functions of the spinal cord, medulla and brain-stem became gradually pieced together and were welded into an understandable chapter of physiology.

It is clear that such an advance was made possible by study of the problems under properly controlled conditions. The symptoms resulting from extirpation of parts of the nervous system, as, for example, the cerebellum, were no longer accepted as illustrating the function of that region. The co-ordination and integrative action which existed were recognized and the interdependence of the different areas was established.

The higher functions of the cerebral cortex were not, however, receiving attention. The physiologist had not discovered methods which could be applied to the investigation of the cerebrum. The field had been prepared for him by the anatomists and histologists, but little use had been made of these discoveries. True, electrical stimulation had aided in the mapping-out of the excitable areas of the cortex, but these methods gave us little information of the actual working of the brain. In the spinal animal, the nature of the response to stimulation may be predicted, but in the normal animal it is impossible to say what type of effect will be produced. Often the animal exhibits actions which have, seemingly, no connection with the stimulation of the end-organ. Pavlov and his pupils have, however, devised a method which is based on sound physiological principles and is purely objective. From these studies it would seem that the complexity of the cerebral function is more apparent than real, and that it is of a true reflex type, subject, however, to inhibitions of great variety.

The reflexes investigated by Pavlov are termed by him "conditioned reflexes"; they are essentially individual, and are not necessarily found in the nervous system of any other individual of the species. A dog secretes saliva when food is placed in its mouth, but it may also secrete saliva on the appearance of the person who feeds it, or as the result of some sound or signal. These reflexes are essentially acquired, and they may be of a simple type or may become combined to form a complex pattern. For the establishment

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of a conditioned reflex, Pavlov advances the law that "stimulation of any receptor organ occurring simultaneously with a reflex excitation of an effector organ leads to a formation of a new reflex." Conditioned reflexes may be established by the use of any of the cerebral analysers. By this method it has been shown that the dog hears sound up to 120,000 vibrations per second, which is much higher than the limit of audibility for any human ear. By the use of the visual analyser, letters, rotation of objects, special rates of movement, etc., can all be made stimuli. Conditioned reflexes established by cutaneous stimuli are well differentiated, and the animal can distinguish between temperatures $\frac{1}{2}$ to 1° C. apart. Reflexes have also been demonstrated with painful stimuli, olfactory stimuli, etc.

If the nervous system is affected by another stimulus before or during the experiment, the normal response will be diminished—a condition of external inhibition. For this reason the experiments must be carried out in special laboratories free from any extraneous noises. Besides external inhibition, conditions of the animal may lead to diminution of the reaction. It is presumed that in these states there is a condition of internal inhibition. Developed inactivity may be produced in the animal experimentally, and does not differ in any respect from the ordinary conditioned reflex. These negative reflexes undergo summation, and they may be experimentally extinguished. By these methods the cerebral cortex may be examined from the points of view of both positive reactions and negative effects. In other words, it is possible to produce states of excitation and inhibition in the cerebrum. Experimental evidence shows that the seat of inhibition cannot be within the lower central nervous system, but must be situated in the cortex.

The older experiments on extirpation of the cortex demonstrated the gross alteration in function resulting from the lesion, but the method of conditioned reflexes allows exact physiological examination to be made. It has been shown that after removal of the cortex all power of forming conditioned reflexes is lost, the lower functions still remaining. Localized damage to cortical areas has only a temporary effect, inhibitory processes being affected to a much greater extent than the excitatory. After a few months the animal returns to its normal condition. Experiments on the cortex agree with the older observations on the localization of particular functions, except in the case of the area of smell. It is interesting to note that no single place in the cortex could be found, removal of which would lead to the disappearance of all conditioned reflexes. From these results it would appear that there is no single association area controlling all association processes.

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In certain circumstances conditioned reflexes may have an injurious effect which may induce a pathological state of the brain. If the animal is made to discriminate between a perfect circle and a very oblong oval, the reaction is perfect. In further experiments the oval is made broader and discrimination is soon established. The oval is gradually made to approximate to the circle, and when the animal is finally unable to discriminate, the inhibitory stimuli become positive. The animal becomes excitable and has the appearance of a neurotic patient. After an interval of a few months it becomes normal and the conditioned reflexes for the old discrimination recover. It would appear that lack of adequate inhibition for a particular stimulus leads to a state of general inhibition.

By such experiments it is possible for the physiologist to make observations on the function of the cerebral cortex, and thus to add his quota to the subject of psychological medicine. From the investigation of the conditions of excitation and inhibition in the isolated nerve and reflex arc the study advances now to the conditions in the cerebral cortex. We must realize, however, that the terms "excitation" and "inhibition" cover more than one type of phenomenon, as, for example, one should not include the inhibition of tonic contraction observed in isolated smooth muscle with the inhibitory state which can be produced in the spinal cord. Again, the presence of inhibitory and excitatory nerves requires explanation. The problems are still plentiful, but the march of investigation continues, and with it the march of progress.

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AN INVESTIGATION INTO THE SIGNIFICANCE OF PERSEVERATION.

By Ll. Wynn Jones, M.A., Ph.D
Lecturer in Psychology, University of Leeds.

In 1894 the term "perseveration" was first used in psychiatry by Neisser to indicate abnormally persistent repetition of an activity after the activity should have been completed, such as is shown in the frequent speaking or writing of a word or words in unsuitable places. Thus originally the term was descriptive of a particular and circumscribed symptom to be recognized in the clinic. In 1900 the term was used in psychology by Müller to indicate the tendency which every idea has, after having once occurred, to remount spontaneously into consciousness.

In 1902 a new turn was given by the psychiatrist Otto Gross. Instead of "perseveration" he introduced the terms "primary and secondary functions" of the nervous system, and his phraseology is neurological: "Each nervous element whose primary functional excitement means the occurrence of a presentation in consciousness persists secondarily after the presentation has quitted the span of consciousness. That is to say, it remains for a further long period in a state of after-function. This after-function remains regulative of the further direction of associative activity."

In 1906 the psychologist Heymans and the psychiatrist Wiersma took over this notion of secondary function and made it one of the three bases in their psychology of individual differences, the three bases being secondary function, activity and emotionality.

Finally, in more recent times Spearman (1), after submitting the perseverative tendency of Müller and the secondary function of Gross, Heymans and Wiersma to prolonged investigation, formulated his law of inertia thus: "Cognitive processes always both begin and cease more gradually than their apparent causes."

He suggests provisionally that both the well-known factor "*g*" and the factor of inertia are general factors concerned with mental energy.* As "*g*" measures its quantity, so perseveration

* This general factor "*g*" enters into *all* the abilities of a stated individual in contradistinction to any specific factor "*s*" which constitutes one of his individual talents; "*g*" varies from individual to individual and may roughly be regarded as a measure of "intelligence."

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may express its degree of inertia. As this law deals with cognitive processes it may be well to give first consideration to the sensory, motor and ideational aspects of perseveration. Emotional and conative manifestations of inertia may afterwards be studied, and this will require scientific observations with each subject, extending over periods comparable with those sometimes deemed necessary in psycho-analytic investigations. Moreover, at the conclusion of so exacting a procedure one would like some guarantee that the very traits under observation have not altered.

In this paper will be described tests which were applied to cases of mania and of melancholia at the West Riding Mental Hospital. I wish to thank the Director, Prof. J. Shaw Bolton, for his kindness in allowing me all facilities for the work and for his advice and guidance. I am also greatly indebted to Dr. M. J. McGrath for his very helpful co-operation.

Sensory Tests.

(1) *Visual adaptation.*—Wiersma (2) compared cases of mania and melancholia. Each subject was kept in a dark room for fifteen minutes, then the threshold for a weak light was determined. Then the subject spent two minutes in the light of an electric lamp so arranged that the light did not fall directly on his eyes. He then returned to the dark room, and the time which elapsed before he could see the weak light which represented his threshold was noted. The following table exhibits Wiersma's averages:

	Mania. 11 cases.	Normals. 9 cases.	Melancholia. 18 cases.
Seconds needed for adaptation	33·5	102·9	233·2

The adaptation test which I applied was certainly different from Wiersma's, but as I had already found it to exhibit wide individual differences with normal subjects it was decided to use it in the present investigation. For one minute the subject sits at a distance of one meter from a white screen illuminated by a 580 c.p. lamp. When the lamp is extinguished the subject is in the dark except for a faint and constant light supplied by an Air Force signalling lamp using a current far below its normal ampèrage. Its light was projected to a definite spot on the screen, and the time which elapsed before the subject could give its shape was noted. The shape was changeable but the area was constant. Each subject was tested twice in succession on five different days. In the small number of cases tested the melancholic was actually the quicker. This was contrary to expectation, but it should be noted that the factors involved here differ from those operative

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in Wiersma's test, and it is well to add that I had not attempted in my previous work with normal subjects to ascertain if the test correlated with other tests of perseveration:

	Mania. 8 cases.	Normals. 15 cases.	Melancholia. 5 cases.
Seconds—			
First test	54	41	38
Second test	45	31	25

(2) *Revolving colour discs test.*—Wiersma also found that, in observing the red and green sectors of a disc rotating at an increasing rate of speed, melancholiacs lost the two colours, and commenced to see only grey, at a lower rate than maniacs.

Wiersma's averages:

	Mania. 11 cases.	Normals. 9 cases.	Melancholia. 18 cases.
Revolutions per minute	1,632	942	732

Although I adopted improvements due to Lankes (3), such as descending from a high speed instead of ascending from a low speed, and pasting the various colours below the discs so that the subjects could point to them, yet my results did not corroborate those of the distinguished psychiatrist. Each subject was tested both with the red-green and with the blue-yellow discs on five different days, and the table shows the average speed at which both colours can be seen:

	Mania. 8 cases.	Normals. 15 cases.	Melancholia. 5 cases.
Revolutions per minute—			
Red-green	443	682	541
Blue-yellow	447	674	483

MOTOR TESTS.

Several investigators have carried out tests of perseveration in the realm of motor activity and their results show a general agreement (4). Many tests are now available. In this investigation I employed two tests involving a change in handwriting which I had framed in 1914. Handwriting is one of our motor activities which is long-practised and well established. I am, of course, aware that these should be supplemented by other motor tests in an extensive investigation. The first test may be called—

(1) *The I. T. test.*—It consists of two parts, for which the directions are as follows:—

(i) "Copy as fast as possible in your own handwriting the passage given. Time allowed, 1 minute 20 seconds."

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(ii) "Copy it again as fast as possible, but this time do not dot the 'i's' and do not cross the 't's.' If you dot an 'i' or cross a 't' by mistake, do not stop to correct it but go straight on as fast as possible. Time allowed, 4 minutes."

It was arranged that the passage should contain a large number of "i's" and "t's." An approximate measure of the efficiency in such a test is—

$$E = \frac{n_2}{3n_1} \times \frac{n-m}{n},$$

where n_1 = number of words written in the first part of the test; n_2 = number of words written in the second part of the test; n = number of "i's" and "t's" written in the second part of the test; m = number of mistakes made in the second part of the test. The second test may be called—

(2) *The reverse stroke test.*—This again consists of two parts with the following directions:

(i) "Write 2367 repeatedly as fast as possible. Do not trouble about writing neatly. Time allowed, 30 seconds."

(ii) "Again write 2367 repeatedly as fast as possible, but this time reverse the direction of your movement in writing each figure. Time allowed, 2 minutes."

A measure of the efficiency is given by the formula—

$$E = \frac{n_2}{4n_1},$$

where n_1 and n_2 are the number of figures written in the first and second parts respectively.

When an adequate number of such tests is used, not only do the tests intercorrelate to some extent, but it will also be found that their pool shows appreciable correlation with independent estimates of perseveration made by competent judges (5).

The results obtained for cases of mania and melancholia will be given in the next section, entitled—

Ideational Tests.

Flight of ideas is regarded as a characteristic of mania, while the melancholiac often seems to brood on a single thought.

The question immediately arises—Has fluency of ideas or rather the lack of it any relation to the kinds of inertia which we have already discussed? Before we can attempt to answer the question it is necessary to have some ideational tests available which differ in some particulars from the tests which are employed to measure

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intelligence. The difference between the two has been well expressed by Hargreaves thus: "In the intelligence tests the 'eductive' principle (that is, the apprehension of relations and finding of correlates) is at a maximum and the reproductive (processes of association) at a minimum, the latter functioning chiefly in the associative finding of the word required; while in fluency tests there is much more scope for the reproductive principle. Here the relations to be apprehended, and the correlated items to be found, are for the most part easy and not strictly determined" (6).

I applied the following fluency tests with cases of mania and of melancholia:

(1) *Nouns test.*—The directions were as follows: "Do you know what a noun is? It is the name of something. Now suppose I ask you to give me as many nouns as possible beginning with the letter 'd,' you should give them as quickly as you can like this—door, dust, darkness, date, duty and so on. You will be allowed only one minute. Start immediately I say the first letter."

The letters "b" and "s" were used.

(2) *Animals test.*—The directions being: "I want you to tell me the names of all the animals you have heard of. You will be allowed only one minute. Give them as quickly as you can, like this—horse, lion, mouse, and so on. Ready! Go!"

(3) *Blots test.*—The directions being: "I want you to tell me what things you can see in each blot. Of course the blots are not really intended to be pictures of anything, but I want to see if you can imagine pictures of things in them, just as you sometimes try to see things represented in the clouds or in the fire. You can take the blot as a whole or any part of it, and you can turn it round in any way you like. You will get only one minute. Now, start."

The results obtained bear out the general view as to the fluency of associations in mania and the lack of associations in melancholia. The method employed also gives some statistical measure of this fluency, and it can be extended to include any classes of associations desired.

I. T. Test Efficiency:

	Mania. 20 cases.	Attendants and nurses. 9 cases.	Melancholia. 18 cases.
Median	·660	·605	·628
Lower quartile	·540	·547	·363
Upper „	·727	·756	·740

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2367 Test Efficiency:

	Mania. 20 cases.	Attendants and nurses. 9 cases.	Melancholia. 18 cases.
Median	·331	·432	·287
Lower quartile	·236	·409	·250
Upper ,,	·336	·458	·350

	Mania. 23 cases.	Attendants and nurses. 9 cases.	Melancholia. 21 cases.
Nouns Test (B. and S.):			
One mark for each noun.	100	64	55
Median	17	14	10
Lower quartile	14½	13	5
Upper ,,	21	16	15
Animal Test:			
One mark for each name.	100	93	72
Median	14	13	10
Lower quartile	10½	11	5
Upper ,,	17	15	15
Whipple's Blots (Nos. 1 and 4):			
Two marks for each meanings.	100	39	37
Median	16	6	8
Lower quartile	8	4	4
Upper ,,	22	8	10
Pool of the Three Ideational Tests.			
Median	48	32	24
Lower quartile	38	31	19
Upper ,,	56	37	35

Correlations; Rank Method (Squared differences):

	Mania.	Melancholia.
I. T. test and 2367 test	−0·03	0·37
I. T. test and pool of ideational tests	0·02	0·43
2367 test and pool of ideational tests	−0·13	0·53
Nouns test and animals test	0·25	0·33
Nouns test and blots test	0·40	0·26
Animals test and blots test	0·34	0·06

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The above tables show that the ideational tests employed were fairly successful in separating cases of mania from those of melancholia. Moreover, these three tests have much in common. (I am inclined to think the correlation between the animals test and the blots test should be higher for the melancholia cases, as the figure 0·06 was largely due to the large deviations of two individuals.)

But Hargreaves has produced evidence from which he concludes that such tests are independent of perseveration, since he found that they did not correlate with the motor tests which, he agrees, are tests of perseveration. If we examine our correlations with this view in mind, it is seen to be consistent with the co-efficients 0·02 and 0·13 with the manic group, but then the co-efficient 0·03 in this group would seem to show that not even the motor tests can be regarded as perseveration tests for the manic group. This absence of correlation* for this group probably indicates that large variations in type exist between individual cases, and for both groups the difference exhibited by the patients with regard to experience and facility in writing would affect the results of the motor tests. The results for melancholia, however, are more consistent with the view that both ideational and motor tests are tests of some general factor of inertia. In any case these preliminary results seem to weaken the validity of the view that manic patients are non-perseverators in sensory or motor tests.

References.—(1) Spearman, *The Abilities of Man*, p. 75.—(2) *Journ. f. Psych. u. Neurol.*, viii, 1906.—(3) W. Lankes, *Brit. Journ. of Psych.*, vol. vii, 1915.—(4) *Cf.* Lankes, *ibid.*, 1915; Wynn Jones, Report of Brit. Assoc., 1915; Bernstein, *Brit. Journ. of Psych.*, Mon. Suppl., 1924; Hargreaves, *ibid.*, 1927.—(5) *Cf.* Bernstein, *loc. cit.*—(6) Hargreaves, *loc. cit.*, p. 41.

* Correlation means the measurement of the extent to which two things vary together. Thus position in school examinations and alphabetical order would be expected to give a zero co-efficient of correlation. The correlation between the areas and heights of triangles on the same base would be perfect, or +1. That between the heights and weights of men, though not perfect, is still fairly high, namely 0·7. The correlation between ability in computation and ability in mental arithmetic is about 0·5, while that between ability in arithmetic and ability in geometry is about 0·25.

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NEUROTIC SUPERSTRUCTURES IN PSYCHOSES.*

By Ian D. Suttie, M.B., F.R.F.P.S.G.

Experience of neurotic patients seeking treatment convinces me that paranoia is by no means so rare a disease as asylum statistics would lead one to suppose. For the purposes of the latter, of course, only fully developed and alienated cases are taken into account. Of the four cases to be discussed here, only one has said or done anything that could be recorded in a certificate, and the delusional picture was only unfolded at the patient's good-will. None of these cases therefore would figure in statistics, yet all four are drawn in a short space of time from a limited section of the community. Paranoid trends, episodes or systems are, I believe, quite common in intelligent, cultured and well-developed minds, and account for a substantial amount of insufficiency and unhappiness. Apart, therefore, from the question of the treatment of the delusional asylum patient, the projected mental clinics will find themselves faced with a formidable problem in regard to the treatment of paranoid conditions. It is from the incipient and partial cases of paranoia that we can gain an insight into the factors which arrest or promote the disease. Only in the most exceptional cases does the fully developed paranoiac admit us within the circle of his fortifications.

Compare in general the placidity of the stable paranoiac who has achieved an emotionally satisfactory compromise between the world of wish and of reality, with the tension, unhappiness and periodic outbursts of the paranoid dementia præcox, who wears out his emotional mechanism without ever reaching such an adjustment. The most superficial comparison of the two cannot allow of any doubt that this internal tension is not only destructive to the patient's mind, but is ruinous to his good relations with his social environment. Failing a harmonious social *rapport*, mind must deteriorate, suspicion and hostility must increase, and at the very least the establishment of a therapeutic *rapport* becomes impossible. Since the tension is not present to an equal extent in all cases, it

* A paper read at the Annual Meeting held at Wakefield, July 12, 1928.

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cannot be the essence of the paranoia, and my general thesis is that this tension is neurotic rather than psychotic in nature, and is, therefore, relatively accessible to treatment as distinct from the true paranoiac mechanism, that it arises from the paranoia, *i.e.*, is secondary, or from the paranoid maladjustment to environment, *i.e.*, is tertiary to the true psychotic basis. Without insisting on my personal belief in the curability of the paranoia itself, I am convinced that these secondary or tertiary neurotic tensions can be so treated that their repercussion upon the paranoid isolation can be prevented, with the result that the latter progresses in a benign manner or not at all.

I suggest, therefore, that where you have an early paranoia, you have of necessity an immense amount of tension, dissatisfaction, apprehension and depression of a purely secondary nature, determined at the *neurotic* level, and that by dealing even with this secondary matter you can not only maintain the psychotic as an agreeable and co-operative individual, but you may even keep his psychosis in the form that best lends itself to a natural and social mode of treatment. I personally hold that paranoia in early stages and favourable cases (favourable in intelligence and disposition) is a curable disease. Further I think the cure depends upon dealing with neurotic tensions before the real paranoid structure is challenged. In this way alone does one avoid the risk of the patient's turning against his physician, and in this way alone can one establish a fulcrum from which it is possible to influence the projection defences themselves. The paranoiac will admit that he is in need of health and happiness long before he will admit the need for a sound mind.

Here is a case, A—, that shows quite clear paranoid characters even although the systematized delusions have not appeared. From a very early age there was an unbounded egoism and a fury at being thwarted in any respect. This reached the point in childhood at which he believed he was Julius Cæsar and even avowed this belief, consenting merely to do the necessary school tasks in a make-believe way to humour the authorities until such time as he should be " big Cæsar." As a child he made two quite serious homicidal attempts, one upon his rival brother, another upon his nurse. He further believed that he was able to move inanimate objects, to levitate himself, and to compel other people to do his will by spells and a magical exercise of will. The objective certainty of these beliefs was, until recently, absolute. He thought himself in communication with God, and believed he was able to read the thoughts of his elders. At any rate he recollects being put out of the room for announcing the results of his thought-reading,

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and held that this was a pretty good proof of the correctness of his announcements—a typical paranoid paralogism, of course.

He started treatment with a history of having become more and more seclusive, so that he would not leave his house even by the back gate without looking round to see if there were anyone watching. He believed that a certain lady was in love with him, and was pursuing him. I must say that I think this belief, though perhaps exaggerated, had substantial foundations, but his terror was morbid. He had invented and made a secret machine for forecasting the course of prices on the Stock Exchange. It was, as far as I can make out, a very ingenious "averages" calculator, but his expectations from it were decidedly mystical and exalted. He considered that in many ways he was very peculiar, had a specially intimate relationship with God and was probably intended for something great. He felt in himself a great sense of devotedness, though what his mission was to be was as yet obscure. He also had from the earliest age a power of defying all disagreeable circumstances by what he variously described as "getting into his shell" and "coming to an end." Apparently this was a kind of hysterical "feint." He believed that there was something wrong with his genital organs, and went to several physicians in succession; each was able to reassure him for a time, but in each he quickly lost faith. Finally an eminent surgeon made a very exhaustive examination and diagnosed a slight cicatricial thickening round the edge of the levator ani, possibly due to pelvic cellulitis. Diathermy was prescribed, but without either mental or physical benefit, and he began to go to pieces emotionally. He came under my notice as apparently a hypochondriac with, perhaps, a basis of conversion hysteria. His general nervousness and anxiety, unhappiness and inefficiency were extreme. As he himself put it, he felt he was going off his head. There was extreme apprehension and excitement though these were well-controlled, with very marked physical symptoms of anxiety and neurasthenia.

Confidential relations were fortunately quickly established and he confessed that he had been a practising homosexual all his adult life, with apparently no capacity at all for heterosexual feeling. He very quickly discovered the knack of "free association" in a way I have never seen equalled, for, without really becoming inaccessible to stimuli, he was able to transport his whole attention into the past and to follow out threads of the most distant memory. It was really a sort of auto-hypnosis and it worked extremely well, so that for long periods—on one occasion six weeks—I did not require to address a single question or comment to him. Aided by this exceptional advantage we very quickly got an almost perfect

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anamnesis, and he began to see the development of his life, as it were, in serial section. His dreads, doubts and inhibitions fell off him rapidly, the homosexual compulsion lost its hold over him and he experienced heterosexual impulses and hopes. The relief was so intense, the revulsion from anxiety, bewilderment and helpless compulsion so great that for months he skirted an attack of mania. He was, in fact, frequently hypomanic, with the wide-opened palpebral fissures, the facies and raised metabolism, the talkativeness and divertible interests all quite well-marked, though without incoherence or loss of control. Whenever his interviews were intermitted for a short period this excitement and exaltation almost got out of hand; he felt such an enormous superiority to the "dull, blind people" he passed in the streets, people who had never had the spiritual experience which he had surmounted. He fell in love—another factor in his exaltation—and his sense of mastery led him to feel that he would easily supplant any authority, that he could influence people's thoughts, and that anyone who was not doing as he wished was afraid of him. In this phase he made a very alarming impression upon several people, including his own doctor. He was enormously self-confident, and intended when his treatment was finished to set up a school of his own, where things would be done properly: he even contemplated taking charge of his own treatment. Under the influence of this exaltation his former paranoid belief in his supernatural powers over people and objects and over the force of gravity returned in full force, but he was in some apprehension of a radical change in himself that he felt to be impending.

Though he often suggested that he had nearly reached full self-knowledge, he never actually threatened to break off treatment except when he gave himself a holiday for a period of three days once, and at a week-end on one or two occasions. In these intervals he always became much more exalted and erratic, and it would seem as if the self-criticism and discipline of daily self-study was an indispensable outlet for his excitement and served also to re-enforce his self-control. The most serious break-away that occurred was a reversion to the literal and absolute belief in his past power and potential future power of moving external objects by the direct action of his will. This reversion is very interesting technically, because he had been uncovering the infantile origins of his homosexuality and meeting the most paralysing resistances as he did so. His little pseudo-trance began now to terminate before the end of the interview; he showed an increasing disposition to talk about his illness rather than to seek to recover and observe more material. When he entered the consulting-room he would sit in any place

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rather than his own, light a cigarette and begin a sort of general psycho-pathological discussion. Finally during his introspection he suffered anxiety attacks so severe that he had to stop several times in the hour and then to abandon the interview. It was during this phase that he suggested his three-day rest. On resuming after a four-day interval he instantly challenged the physician on the objectivity of his paranoid beliefs, and was met with the statement that that was totally irrelevant to our inquiry, and that in any case the evidence did not justify him in demanding that the physician should violate his own whole system of beliefs and experiences in order to accept those of an individual patient. He admitted both these points as well as many other considerations of a more purely pathological nature, but still felt he could not work for the physician but must do it himself. It was then pointed out to him how opportunely this objection of his had occurred: that it enabled him to cease controlled introspection just at a time when this was becoming intolerably terrifying, and further that the argument diverted his attention from the painful and arduous study of himself and his own psychological mechanisms to objective supernatural speculations about the possible mechanisms of these "remembered miracles." Such speculations could never be conclusive, as he clearly saw, but what influenced him most was the physician's explanation of the hedonic, economic convenience of "exteriorizing" or "projecting" the whole interest. The motive for this projection he quickly came to realize was an escape from an apprehended self-discovery. The mechanism, in fact, as was pointed out to him, is identical with that of phantasy formation generally and served an identical purpose. After a night's reflection he announced he saw that it was so, and resumed his original method of work, with the result that he quickly made most startling and disagreeable discoveries which were in every sense relevant to the content of his delusions. The excitement subsided immediately a subjective interpretation of all these paranoid ideas was adopted and his personal relations to the physician immediately became most cordial. Incidentally the last vestiges of his homosexual leanings and the inhibitions on his heterosexual wishes very speedily cleared up.

I do not intend to deal with the actual content of his conversations, though some of his recollections were astonishing examples of infantile memory. I merely adduce the case as showing how a steady attack upon the neurotic, rather than upon the psychotic, features of an illness will hold the patient friendly and co-operative where a direct frontal attack upon the psychosis would merely evoke antagonism. This patient could not have tolerated a direct

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challenge to any of his beliefs, yet he opened up his mind completely in order to secure an understanding of the neurotic strains and disabilities which he readily admitted. His hypochondriacal beliefs vanished in a month or two, his homosexuality gave place to strong heterosexual emotions within four to six months, and his paranoid beliefs, with the exception of this last flare-up, simply attenuated themselves and lost meaning for the patient. From a morose and irritable recluse he became sociable, courteous and friendly, while his overbearing self-confidence seems to have dissipated itself completely on his discovery of its infantile basis. Whatever the permanent results, the day-to-day effect and the total change achieved by this method of approach was most striking.

It will be said that it is more than doubtful that this case is or would have become one of paranoia, notwithstanding the objective delusions, mental attitude, mode of life, homosexuality and the typical mechanisms that I have adduced. A second case, B—, however, should be accepted as paranoia without difficulty. In B—'s case I had only a matter of four months of effective treatment, and though this naturally did not allow of anything like a complete result, yet it so altered the neurotic superstructure of the disease that he ceased to be an invalid, the tension, anxiety, irritability and despair were substantially removed, and an insight was acquired which I believe will keep him oriented to his social world for an indefinite period. B— was sent to me as a case of anxiety neurosis with chronic hypochondriacal ideas. Bit by bit, as he acquired confidence, he unfolded what he had concealed from the specialists—a complete paranoidal system taking briefly the following form: Whenever he was in company some word, innocent enough in itself, was used by someone in his hearing; this instantly caused in him a facial reaction, which was noticed and commented on by women in particular. This word—whatever it might be—was intended to make him betray himself, and the whole neighbourhood was seething with scandal about his sexual habits. Among the words that most uniformly produced violent reactions were the following: Back, hole, finger, "put up his hand," "both ways," "it is true," cunning, suction, boys, liar, low, dirty, filthy, tragedy, brother, dying, weakling. When any of these occurred in the most casual conversation, he insisted that in a mysterious way an influence beyond his control radiated from himself that produced a most painful state of electrical tension in everybody present with a subsequent depression. Even without a signal word he would suddenly get the idea that somebody suspected him of something and he then felt compelled to betray his awareness of this suspicion. His own thought, conveying itself supernaturally to the other

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person's mind, naturally served to confirm this suspicion even although it was unjust. These will serve as examples of his beliefs. His impulse to self-betrayal and self-thwarting led to a remarkable tissue of suspicions, interpretations, watchfulness and self-control. His face was wooden, like the *Gefägnisblick* of the jail-bird that betrays nothing of the internal thought. In spite of all these false ideas, however, he had a most remarkable power of handling men and of understanding what they were really intending. He would exercise endless trouble and skill in unravelling social situations, so that in addition to being a skilled technician and an able business man, he was an exceptionally good organizer and employer of labour.

His illness, however, for a year or so before I saw him had made a sinister advance. In the presence of a company of men he would feel compelled to betray the idea of erection and ejaculation although nothing of the sort had occurred. The others would instantly be aware of his mental processes and all sorts of curious responses and provocations occurred, which not only enormously embarrassed his own business discussions, but made him believe that his sexual peculiarities were a subject of universal scandal. Women also became intensely excited in his presence, but the principal trouble was with men. These provoked or at least afforded an occasion for his self-betrayal, and when finally this self-betrayal assumed the form of emitting an odour which he insisted was felt by everybody and could never be eradicated from clothing, his capacity for carrying on an ordinary life was at an end. He now regarded himself as a pariah, a "bad joke"; he felt that everybody was waiting for "it" to happen and either giggling at it or regarding him with the strongest disgust. He had only to wear a suit of clothes once for it to become intolerable; no washing or deodorizing had the smallest effect, and he could never tell at what moment this purely odorous emission would occur, or be wantonly provoked. The world suddenly became for him hostile, derisive, and contemptuous, and no expedients on his part had the least ameliorative effect. He went to endless physicians about it and they all assured him there was no objective basis for his belief; he thereupon decided they were making a fool of him. The whole world in fact had entered into a conspiracy of silence and a secret understanding against him.

I think that it will be admitted that this is a case of systematized delusional insanity, and that the organization and fixation of his beliefs was progressing literally from day to day. There was not a trace of hallucination (beyond that of smell), of weakening of judgment, of deterioration of affect or of character. The patient

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was a man of the highest resolution and intelligence, yet totally convinced of the objective reality of these beliefs. The first two months of the treatment were spent in a philosophical discussion of reality, and of the distinction between the various kinds of reality and the limitations of social and individual beliefs. A philosophical interest in his situation and problems was thus established in his mind so that he could discuss the whole matter with some degree of detachment, and in this way he could enter into some confidential relationships with his physician. His contact with his physician and with one other person to whom he had a strong father transference really represented his whole social *rapport*. It proved sufficient to begin an analysis, though at first of a scope limited by his interests and suspicions. He retired as it were from a universally hostile world to the hobby of systematic self-study. He had, moreover, a tremendous load of secondary neurotic inhibitions, including impotence and *ejaculatio præcox*, which were made our avowed therapeutic objective, and which therefore he was willing to discuss and study without any psychotic restrictions. It was cut off in his opinion from the question of the validity of his beliefs, any challenge to which he could not tolerate. Yet these neurotic disabilities were sufficiently urgent to command his interest. The analysis of the neurotic mechanisms proceeded rapidly and favourably. The patient's intelligence and strength of character and the enthusiasm with which he made the inquiry his own very quickly gave him a complete insight into the hitherto unconscious mechanisms of his *neurosis*. From this point he quickly made the, to him, remarkable discovery that in all the *psychotic* situations his own involuntary impulses had not only played a responsive part, but had even planned and initiated the "betrayals." He was enormously impressed with his own discovery, and the next day added the significant commentary that he now recalled that a couple of years before he had had the idea that the whole thing came from himself, but that more recently he had forgotten all about this feeling. He now re-embraced the view that the trouble started in and from himself, and though still tending to mystical and supernatural explanations, he progressed steadily towards an understanding of the utility of these manifestations to himself. He grasped for the first time the passive homosexual factor in himself, and saw how this involuntary self-exhibition served the purposes of these morbid and dissociated impulses. He saw further how the subsequent projection of the responsibility for these social occurrences served to rid him of all self-reproaches. It was now clearly grasped that the original sequence of guilty conscience, fear of self-betrayal, apprehension

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of blame, self-consciousness, became by degrees changed by his imagination into unjust accusation, wicked thoughts implanted in his mind by others, compulsory self-consciousness leading to compulsory self-betrayal, and thus to the confirmation of other people's (supposed) evil and unjust suspicions.

When he had realized how, owing to this mechanism, his passive homosexuality, masochism, etc., were involuntarily and unconsciously given free play, while the whole blame for every evil thought or wish was successfully projected upon other people, he grasped the astonishing fact that from a certain primitive pleasure point of view the whole catastrophic series of happenings were of value to him and were of value to no one else. At this point objective criticism was brought to bear upon the reality of his beliefs, the original discussion about the kinds of reality and their relative importance was gone over again, and the patient was progressing very rapidly, I think, towards complete recovery, certainly towards a functional readjustment, when considerations of time and money put an end to treatment. He was completely incapacitated when he began treatment; at the end of six months he resumed exceptionally heavy duties successfully and has married.

In any case, from the administrative point of view the treatment was successful. Instead of being hostile, suspicious and miserable, the patient became enthusiastic and co-operative after the first few weeks, and would have remained so, I am certain, even had the treatment been continued to a conclusion. This is in itself quite important.

In case C—, one of depressive psychosis, success was not nearly so great. Hostile projections and egocentric suspicions were indeed a feature here also and were comparatively early and easily dispelled. The recurrent depression, however, directly interfered with the investigation in a way there was no evading, automatically inhibiting the patient's intellectual processes: it brought the therapeutic discussion to a standstill by rendering him almost mute. Inaccessibility of any sort is of course an absolute bar, and particularly so in the presence of massive emotion.

Taking these three cases as examples, I would offer some suggestions as to the potentialities and limitations of psychotherapy in dealing with "projection" symptoms, delusional or obsessive. I would prefer to have based my remarks upon a larger number of cases, but I have only one more strictly comparable in regard to exhaustiveness of study, responsiveness of patient, etc. A ,. and B— received over 200 hours of clinical study, C— nearly 400, while none of the three, had reached the stage of "broadcasting"

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their paranoid ideas. Cases so early as this are, of course, not easily obtainable for study. The first dilemma that confronts the psychotherapist in treating such cases is that of reaching and retaining, for the necessary length of time, the requisite confidence of, and intimacy with the patient, without being drawn into the circle of his psychotic system. This problem I propose to leave for later consideration. The second difficulty is to avoid joining issue with the patient on the question of the objectivity of his projections until the latter (*a*) has established a strong *rapport* with the physician, (*b*) is aware of the subjective utility of his beliefs, and (*c*) has been so educated in epistemology and the social meaning and conditions of thinking as to be capable of at least a formal criticism of his own thought-processes. The patient will raise the issue as soon as he can, and attempt to force the physician to declare his own point of view. The more suspicious and antagonistic the patient is, the more insistently will he obtrude his delusions and other projections, once these are revealed at all, because these are his defences; they form a " red herring " to draw off attention from his own endopsychic conflicts, and in his opinion they constitute an excellent test of the friendship and sincerity of the physician. I repeat that any argument, rational dissuasions or any attention whatsoever, prematurely devoted to projection symptoms of any kind is simply " playing into the hands " of the psychosis, developing and confirming the patient's paranoid tendencies and rendering the real pathogenic mechanisms ever more and more inaccessible to treatment. Subtlety and dexterity are of little avail in postponing this issue. To acquiesce in his delusions, to dispute them, to quibble or shirk the discussion are all equally disastrous either by irritating the patient, reinforcing his suspicions of conspiracies of silence, confirming the delusions or rivetting his attention upon his projections. Nor is it possible to fob such patients with the tale that they are ill; that is the point at issue, and they are too acute to yield to a *petitio principii*. No evasiveness, lack of interest nor attitude of superiority is tolerated by these patients. I repeat that the only way I have found, or can so far conceive, for deferring the critical attack upon projection symptoms, until this has a chance of success, is by explicitly insisting upon a preliminary discussion of the theoretical foundations of belief in general, and of the meaning to be attached to the ideas, truth, proof, etc., in fact to arrive at a common understanding as to the theory of knowledge and of the social functions and conditions of thought—a psychobiological critique of the powers and limitations of mind, and an agreement as to rules and methods of discussion.

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The third difficulty is to break the vicious circle between secondary neurotic thwartings and psychotic regressions. This, as I have suggested earlier, if it can be achieved, at least prevents adding fresh fuel to the patient's dissatisfactions and tensions, and if any success can be gained along these lines it directly distracts the patient's attention from his projection symptoms, it promotes his insight into the duplicities and irrationality of unconscious thinking, and it helps more than anything to maintain the correct *rapport* with the physician. Although these neurotic symptoms are secondary to the patient's affective mal-adaptation to his environment and the concomitant thwartings and dissatisfactions of interest, and although this maladjustment itself is secondary to the psychotic fixation, the neurosis, superficial and secondary as it is from the standpoint of mental development, is the real channel of traumatic energy for the further progress of the psychotic regression. All thwarted interest, dissatisfaction, etc., is caught up in the neurosis, and from this level repercusses upon the psychotic fixations and reinforces indefinitely their deeper-seated regressive tendencies; it is, in fact, to this tension that the rapid progress of the psychosis is due. It is responsible also for any violent hostility and anti-social conduct that may appear, and contributes very largely to the well-known therapeutic inaccessibility of the psychotic. If, then, any definite neurotic symptom or mechanism can be discovered in the psychotic, this is the strategical point of attack; progress can be made at this point alone; here alone the patient's defences are vulnerable. Success achieved at this point opens the patient's eyes to the fact that if not mentally disordered, he has at least been unnecessarily unhappy from causes within his own mind. The world and his fellows thereupon assume a slightly more favourable aspect, and the *rapport* with the physician is enormously confirmed and safeguarded from the negative psychotic influences that are so apt to destroy it.

The practical suggestions I make are, therefore, three: (1) Intensive treatment from the moment the patient comes in contact with his physician, but with no contact between the two other than therapeutic, *i.e.*, no social or administrative relations. (2) A strong attempt to educate the patient in the theory of knowledge and to develop his capacity for formal logical criticism. (3) The concentration of attention upon any neurotic as distinct from psychotic symptoms that may be present, and the postponement of the grand attack upon the psychosis until this has been completed.

In general, cases that are clinically paranoia and yet on investigation show that wish, rather than defence, has been the chief factor in projection, are more accessible to investigation and

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amenable to influence than those in which the fundamental wish is deeply hidden under negative and hostile ideas. To begin with, such simple wish-projections have not nearly the same tendency to become organized into a logical unity, nor are they so apt to buttress themselves upon elaborate misinterpretations of data. It is when the wish is repressed, totally denied and rejected by the patient, and where the repudiation requires the services of indignation, that the hostility of the paranoiac takes its origin. Without hostility and suspicion paranoia should be more easily curable than the underlying homosexuality. There are a number of cases which are clinically chronic systematized delusional insanity and yet respond well to treatment. Wherever the wish has not been too seriously threatened or opposed by external circumstances, wherever the wish is not too obnoxious to the censorship and therefore does not require vehement rejection, wherever, indeed, defences have not been too actively aroused, the mechanism of paranoia can be laid bare. Wholesale delusional states of an evanescent nature are not uncommon for instance at the climacteric, and they occur also at other times of stress. These are wrongly called deliria, but are in fact paranoiac in type and mechanism; they are in reality merely a glorified childish make-believe that, owing to the peculiar temperament and circumstances of the patient, wins acceptance in the place of reality. It has been noticed, for example, by Tanzi that the amorous type of paranoia is far more benign, more tractable and less prone to conflict with society than those in which the delusion comes to take the form of persecution. Probably the most dangerous of all is the paranoiac who believes that his pelvic organs are actually being interfered with. Here we have, generally speaking, a rejection and projection of a wish and a violent reaction against it by the whole censorship. At the other end of the scale we have the woman who believes that a certain man is secretly attached to her; here the projected love-wish, that is if it is not too incompatible with her super-ego, and the resulting romantic situation, may be cherished as a secret solace for many years, and in any case does not have the progressive and malignant tendency of the more pronouncedly defence-hostility paranoias.

Of course it will be observed that the systematized delusions I have characterized as amiable and benign are heterosexual, and the inference will therefore be drawn that it is this circumstance that determines the more favourable character of the systematized delusions. Broadly speaking, I think this is fundamentally true, but I will not on that account deny the title of these amorous paranoiacs to be diagnosed as paranoias. Clinically they are

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unquestionably chronic systematized delusional insanities. In these cases the mechanism of projection is beautifully and predominantly displayed, so that unless we accept the Freudian correlation of paranoia and homosexuality as equivalent to a re-definition of paranoia, we would have to admit that this group is paranoia. Cases of this kind are really much more numerous than certification statistics would lead us to believe. They escape record by reason of their amiable dispositions and reticence. Further, so far as my own experience goes, the unconscious homosexual element in these cases is really very strong, though the delusional attachment is heterosexual. These cases represent intermediate states between the incestuous fixation to the heterosexual parent and transference to the homosexual parent, and though the heterosexual drive is completely goal-inhibited (another reason for the need for phantasy, and for the retarded development of the reality sense), it still acts as a pleasurable inspiration in certain circumstances, particularly where there is no possibility of gratification.

The treatment of such cases of course depends upon the facilities offered by the patient's age, character and circumstances, for the completion of the normal development and direction of libido. Without such a radical constitutional change, real character development is not possible and regression is a permanent gulf at such patients' feet. Moreover, without at least normal sex wishes, the need of such patients for phantasy gratification is absolutely paramount, and the phantasy, of course, affords the nidus for innumerable potential delusional systems. The possibilities of therapeutic interference are therefore strictly circumscribed.

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THE DIAGNOSIS OF GENERAL PARALYSIS OF THE INSANE AS A CLINICAL AND PATHOLOGICAL ENTITY.*

By JOHN BRANDER, M.D., M.R.C.P., D.P.M.,
Deputy Medical Superintendent, Bexley Mental Hospital.

AT the outset of this communication let it be said that the intention is not to make any new or original contribution to the subject, but to re-state some old facts which, it seems to me, are in danger of being forgotten by the older ones amongst us, and have not been sufficently impressed upon those who have recently come to the study of general paralysis. My own experience leads me to hold suspect the way the diagnosis of this disease is arrived at to-day in many quarters, and consequently to question the validity of many published statistics. In the time at my disposal it is not possible to alter settled beliefs, but I hope to arouse doubts and to shake some confident and easy convictions. If the doubts be carried into the study of future cases my object will have been attained.

I propose to refer as concisely as possible to some points in the history of the disease and to the various transition stages in its diagnosis. Some of the salient points will be illustrated by reference to cases which have come under my personal observation.

The term "general paralysis of the insane"—*la paralysie générale des aliénés* of Esquirol—will be used in preference to more modern terms, as indicating a clinical picture accepted and recognized for nearly a century before laboratory tests were invoked in the diagnosis. Concurrently with the use of other terms there has occurred—as it seems to me—a widening of the bounds, a grouping together of types formerly deemed distinct. That, however, is a personal opinion, and in the meantime must remain so.

Fortunately we have very accurate records of early observations regarding this disease. Within a very few years the symptomatology was classified and the progress from onset to death divided into three stages, of which the first was characterized by mental deterioration and speech defect, the second by increasing dementia,

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slowness and clumsiness in the movements of the limbs, and incontinence, whilst in the third stage the patient became bed-ridden and vegetative. At a time when clinicians are saying (as they have said for over thirty years) that general paralysis is assuming less acute forms, it is interesting to recall that a hundred years ago acute emotional outbursts were uncommon, or at least did not evoke special comment. The possible influence of associated alcohol on the symptomatology must not be lost sight of. The disease was described amongst the progressive dementias with, in the phrase of Marc, the epiphenomenon of difficulty in articulation, locomotion and movement of the upper limbs. The clinical picture must have been very clearly defined and the diagnostic skill of the physicians very high, for after experience of many hundreds of cases Esquirol said that he had only seen two recover, whilst a contemporary, during twenty years in a large asylum, did not see one good recovery—death, as a rule, having taken place within three years. Yet the diagnosis was made by Esquirol in one-fourth of the male admissions and one eighteenth of the female admissions to his hospital. Let it not be supposed that death was the inevitable issue, not only for general paralytics, but for all patients who entered an asylum in what we regard as the unenlightened days of a hundred years ago. On the contrary, we find that the recovery-rate was then over 33% of the total admissions, or, excluding general paralytics and congenital cases, over 40%—not appreciably different from what obtains to-day. Nor was there, even at that time, any dearth of hospitals with a published recovery-rate exceeding 50%.

All available evidence points to the fact that from the time of Esquirol this disease was readily and accurately diagnosed by those who came much in contact with the insane, not only, be it remarked, by physicians, but also by attendants and other lay persons. Writing in 1835, Prichard relates that the steward at Bethlem, who had never heard of the disease described by Esquirol, was well acquainted with the type, and had made the further observation that "monomania, with pride and the illusive belief of great possessions, is the mental disease which has been noticed in the majority of these cases."

"This form of paralysis"—I quote again from Prichard—"is very distinguishable in its symptoms and history from those affections which result from sanguineous congestion in the brain, from sanguineous effusion, and from acute *ramollissement*, though occasionally complicated . . . with these accessory changes of structure and their results. The former affection constitutes a distinct species of disease, having its peculiar causes, symptoms, course

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and termination." Such, then, was the position of general paralysis shortly after it had first been systematically described. Such, also, does it remain to-day for many of those who live and move about amongst mental patients—a disease with characteristic mental and physical features, easily and almost unavoidably recognized. That the features of the condition are distinctive there can be no reasonable doubt. It is quite unnecessary here to multiply instances where the diagnosis has been made and accurately made by persons who had no conscious knowledge of physical signs, and could not clearly describe the symptoms on which their diagnosis was based. In every hospital there have been members of the lay staff who seemed to possess an uncanny flair for such cases. Physicians of experience placed much reliance on the opinion of those who lived all day in the wards with the patients, and this reliance was seldom misplaced. Many, varied and strange were the reasons sometimes advanced for the diagnosis—a greasy skin, a characteristic odour, flexion of the thumbs on the palms, even a kind of halo around the patient's head. The highly significant fact remains that the diagnosis was almost invariably right. In this connection one may recall the case reported by Mott of frontal tumour simulating general paralysis. After full observation in a general hospital Mott made the diagnosis of general paralysis. In this a leading psychiatrist concurred. The patient was sent to an asylum, where the medical staff accepted the diagnosis; but—as was fortunately recorded—" the attendant in charge of the case said that he did not behave altogether like an ordinary general paralytic." We should ponder long over the circumstances which enabled an attendant correctly to contest the diagnosis of the pundits. In my young days I was told that " you do not diagnose general paralysis; you sense it."

Let it, then, be remembered that the diagnostic criteria of this disease and its fatal prognosis were developed many years before the days of Argyll-Robertson and Wassermann. But now these things have changed. There are many cases included under this heading which would not formerly have been there, cases with which every psychiatrist was well acquainted, but which he did not call general paralysis because they were not at all like general paralysis; cases, moreover—and this should be carefully noted—which did not have the prognosis of general paralysis.

The change seems to have begun with speculations as to causation and attempts to explain the mental phenomena in terms of cerebral localization. The position which resulted at one period may be judged from a sentence in Maudsley's text-book. " The most paradoxical thing of all is that one person may die of general

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paralysis of the insane without ever being insane and another die of it without ever being paralysed; in other words, there is a progressive general paralysis ending in death without any particular mental symptoms, and there is an exalted mania with weakness of mind which ends in death without bodily paralysis." Confronted by such a statement one must perforce ask, with Maudsley himself, " In face of its different forms, manifold variations and incalculable inconstancies, are we entitled to say that there is such a disease as general paralysis? " This was the result of attempts to make the disease accord with supposedly orthodox causes, to mould the symptoms so that they would not clash with pretty hypotheses formulated in terms of cortical areas. The position thus created was so unreasonably paradoxical that I should not have referred to it did I not feel that a somewhat similar position, within narrower bounds, is in danger of being created to-day.

When it became universally accepted that general paralysis had syphilis as its invariable antecedent the position altered appreciably. Much that had been argued about ætiological factors seemed ridiculous and faded into oblivion. To many it was enough to believe and to say that if there was evidence of syphilis combined with any variety of mental disorder, this constituted general paralysis. The introduction of the Wassermann reaction seemed likely to clarify the diagnosis. It certainly helped to eliminate some of the doubtful cases. Unfortunately, however, it brought fresh errors in its train. For a time, as many will remember, we were told that a strongly positive reaction of the cerebro-spinal fluid indicated either general paralysis or tabes. Some, at least, amongst us accepted this dictum. We were surprised at some of the types involved, types which formerly would not have aroused suspicion. We thought that we must be finding the disease in its earlier stages and that the characteristic mental and physical features would develop later. As we knew of no effective remedy for general paralysis we gave no treatment. Our inaction, reprehensible as it was, affords very valuable data for to-day. As time went by, untreated cases, instead of deteriorating, improved. It became necessary to discharge patients who, notwithstanding the positive reactions, had recovered completely from their mental disorder.

As we gradually lost faith in the Wassermann reaction as a guide to any diagnosis beyond that of syphilis, there began another stage in which the diagnosis was based on the response of the reaction to treatment. It was after this that there began in earnest the era of so-called mixed forms of cerebro-spinal syphilis.

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Fournier had proposed the term "para-syphilis" for a group of conditions referable to disease of the nervous system, preceded by syphilis, but not due to a specifically syphilitic process, and resistant to all forms of known treatment. The discovery of spirochætes in the tissues in these cases put a fresh complexion on the whole subject. If the para-syphilitic diseases were really syphilitic there must be a new hypothesis to account for their intractability. Head and Fearnsides applied themselves to this task, and in 1914 propounded the view that there was no essential difference between the pathological processes in the two main groups of central nervous syphilis, except that in the event of spirochætes lying on the further side of the membrane of Lenhossek little benefit could be expected from treatment by drugs, since no drugs in general use appeared to pass that membrane. Consequently these workers suggested the terms "syphilis meningo-vascularis" and "syphilis centralis," which latter term " was chosen to include all those cases where the degeneration of nerve-tracts or nuclei shows that the lesion must lie within the structure of the nervous system itself. This category includes " parasyphilis," used in the strict sense for those forms of the disease which are not materially influenced by our present methods of anti-syphilitic treatment."

This classification, whatever its merits, certainly did not simplify diagnosis, since it necessitated the introduction of many "mixed" forms. That part of the clinical picture which improved under treatment was regarded as meningo-vascular, whilst the refractory features, if referable to the substance of the brain or spinal cord, were due to syphilis centralis. In other words, the morbid state was classified on totally new grounds—not on the clinical features, but on the presumed site of the lesion and the response to treatment. Special emphasis was laid on the behaviour of the Wassermann reaction in the cerebro-spinal fluid. Now it was entirely indefensible to confuse general paralysis—a definite clinical state—with a large group of cases which happened to harmonize with certain pathological and therapeutic postulates. Yet this unfortunately has taken place. In general paralysis there was presumably disease of the nervous tissue of the brain, the condition did not improve under treatment and the Wassermann reaction remained persistently positive. From these premises there was derived quite another proposition, namely, that any form of mental disease, whatever the history, whatever the physical signs, if it did not respond to treatment, and showed a persistent Wassermann reaction, was general paralysis. This might have proved correct, but as a matter of fact it does not appear to be so. The resulting errors in diagnosis would probably have been relatively few if the

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clinical features and the response to treatment had been retained amongst the diagnostic criteria. On the other hand, we find that the diagnosis has been made, not once or twice, but many times, on the strength of a single examination of the blood and cerebro-spinal fluid. In the presence of a positive Wassermann reaction, with increase of cells and protein, and a so-called paretic type of gold curve, the diagnosis of general paralysis has sometimes been made even in the absence of mental symptoms. Can we wonder, then, at the diversity of clinical and pathological records?

As I believe that most of the existing confusion of results centres in the mixed "type," it is worth while devoting a little attention to the subject. Consider for a moment the question of clinical improvement. Whilst it is eminently possible to arrive at a diagnosis in the presence of a comprehensive syndrome, it is difficult or impossible with regard to an isolated symptom or physical sign to say if it is due to endarteritis, thrombosis, meningitis, gumma or primary neuronic degeneration. One thing is certain—with each process there comes a stage when not only is function lost, but essential elements are irreplaceably destroyed. To take one example only, it has been recognized for many years that syphilitic meningitis involving the posterior roots may simulate tabes very closely. The former condition in its earlier stages appears to respond readily to treatment. If at a later stage the degeneration and sclerosis of the nerve-roots and posterior columns have so far progressed that it is no longer possible to obtain clinical improvement, shall we then say that the condition is one of central, parenchymatous syphilis? Precisely the same conditions obtain with regard to meningo-vascular disease affecting the cerebral cortex.

The main conditions which were grouped under the heading "para-syphilis" were general paralysis, tabes dorsalis, muscular atrophy, primary optic atrophy, epilepsy and various minor psychoses. Now, any of these may be simulated to a greater or less degree by meningo-vascular disease which can produce permanent loss of function. As a natural result of this we find cases in which there is a response to treatment on the part of some of the symptoms and signs whilst some remain unaltered. Consequently there have been described an infinite variety of "mixed forms." It is perfectly natural and reasonable to suppose that cases may occur in which parenchymatous and interstitial disease processes co-exist. On the other hand, the wholesale acceptance of mixed forms has, as it seems to me, led to looseness of diagnosis and consequent confusion of pathology. There can be no doubt that many cases have been sent to the pathologist as general paralysis when they were not examples of this disease at all. From my own

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observation I am satisfied of this, but it may be instructive to quote two cases from the paper by Head and Fearnsides referred to above. The first was described as a case of cerebral syphilis simulating dementia paralytica. At the London Hospital he was diagnosed as a case of paralytic dementia and was not treated with salvarsan. After his discharge "he became unmanageable and was signed up and sent to an asylum. As an in-patient there he was treated with iodides, but no mercury; gradually he improved and was discharged as 'cured.'" Evidently at the asylum he was not regarded as a case of general paralysis. Later he suffered a relapse, went to the London Hospital, and this time was treated with salvarsan. He "recovered completely." The second case was that of a woman, æt. 38, who had an abrupt seizure on the day before her admission to hospital. This left her with mental symptoms, right-sided hemi-paresis involving the face and tongue, and dysarthria. The Wassermann reaction was positive in serum and cerebro-spinal fluid. The condition cleared up completely under treatment. The comment was made that "here was a case which, during the first period of clinical observation, could not have been distinguished from one of dementia paralytica. Had she been sent to an asylum there is little doubt that she would have steadily degenerated, and have been classed as an obvious instance of 'general paralysis.' After death no close microscopical examination would have been made in so commonplace a case and she would have swelled the list of those dying from that disease." I can only speak for one asylum at that date. At that asylum the history and clinical features given would not have aroused a thought of general paralysis. The case would have been reported as one of "insanity with gross brain lesion." Mercury and iodide would have been given, with good expectation of recovery in view of the short duration of the symptoms.

It will probably be conceded that complete recovery from the signs and symptoms of cerebral syphilis means meningo-vascular disease. What, then, may be said of those conditions which resist treatment? Some are due to parenchymatous syphilis, and some are the result of irreparable destructive lesions caused by processes in the vessels or meninges. Unfortunately there is a tendency to accept certain isolated phenomena as unequivocal evidence of parenchymatous syphilis, namely, the Argyll-Robertson pupil, loss of the knee- and ankle-jerks and primary optic atrophy. These, however, may occur as end-results of ordinary meningo-vascular disease. Can we discriminate between these conditions by means of the Wassermann reaction? In the present state of our knowledge I think not. For some years the colloidal-gold curve

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has carried conviction, but now it is falling out of favour, not because it is of no value, but because it was asked to do the work of the clinician and make a diagnosis.

Reference should be made to certain differences in the pathological findings of typical general paralysis and the mixed types. Until a few years ago everyone was impressed by the total absence of luetic scars in subjects of para-syphilis. After observation of several hundreds of general paralytics I am unable to recall one who showed the scar of a former gumma. At *post-mortem* examinations evidence of gummata of the viscera must be extremely rare. Gummata of the brain do not occur in this disease. I, personally, should be very slow to give the diagnosis of general paralysis to any case showing clear evidence of past or present tertiary lesions. Perforation of the palate, necrosis of the skull, stricture of the rectum, gummatous scars on the surface of the body and in the viscera I have encountered repeatedly in cerebral syphilis and various mental disorders other than general paralysis, never in this disease. Surely if evidence of tertiary syphilis does not occur in association with general paralysis, general paralysis is unlikely to occur in the presence of such evidence. Yet the so-called mixed forms of general paralysis are avowedly cases of combined tertiary syphilis and para-syphilis. They show stigmata formerly held to differentiate ordinary cerebro-spinal syphilis from the parenchymatous forms. They do not have the history, symptoms, course or termination formerly ascribed to general paralysis. Notwithstanding various additional focal lesions, etc., they tend to run a much more benign course, though there is an increased risk of apoplexy. I think it may justifiably be asked, Are these instances of general paralysis at all? During the course of eighteen years I have seen many cases of syphilitic hemiplegia, epilepsy, third nerve palsy, etc., in association with mental disease. They were commonly treated with mercury and iodide. None of those who recovered sufficiently to be discharged have ever returned with general paralysis, and no signs of this disease have supervened in those who continued in the hospital in varying degrees of dementia. Be it noted that a proportion of these had a positive reaction in the cerebro-spinal fluid, with increase of cells and protein. I have no doubt that in certain quarters these would run the risk of being labelled "general paralysis" to-day.

For many years it has been recognized that the characteristic features of general paralysis might supervene in a case of tabes. The condition was known as tabo-paresis. It was distinctly uncommon, and usually ran a very acute course. Under this caption to-day there are included many cases of very different type, so

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that the present-day statistics of tabo-paresis cannot be used for comparison with those of a former period without considerable qualification.

With regard to juvenile general paralysis the change in diagnostic standards is still more striking. Originally the clinical features were considered to be the same as in the acquired form. Somatic stigmata were relatively inconspicuous or totally absent, so that search for syphilis was made in the parental history or in other members of the family. The course of the disease was equally rapid, whether the original infection had been inherited or acquired. Thirty years after he had described the first recorded case Clouston said that the condition was rare. Other observers with great experience formed the same opinion. Yet do we not find to-day that since the introduction of the Wassermann reaction many cases have been so diagnosed? Of these a large proportion show pronounced stigmata, tend to run a chronic course or remit indefinitely, and never develop the characteristic mental and physical signs of the disease. Most of these are mixed forms, but all have approximately the same serological findings. A year or two ago I saw some cases shown to illustrate juvenile general paralysis. On my inquiring on what grounds the diagnosis was made, my attention was directed to peg teeth, interstitial keratitis and the changes in the blood and cerebro-spinal fluid. The characteristic mental and physical features of general paralysis were not in evidence. The patients seemed to me to resemble those congenital syphilitics who have been never infrequent in a mental hospital, the deficient or demented; who, with or without special treatment, live many years and are often useful workers. Whatever diagnostic standards may be adopted, it is certain that no reliable conclusions can be drawn from statistical evidence as between these and earlier cases.

Some of us see cases diagnosed as general paralysis which we should once have regarded as cerebral syphilis and treated with mercury and iodide. Such cases are cured by salvarsan and its substitutes. They are sometimes claimed as cures of general paralysis. We must be forgiven if we are a little perplexed. The position is made a little clearer when one hears an outstanding neurologist say that the time to cure general paralysis is before there are any signs or symptoms of the disease, changes in the cerebro-spinal fluid being pathognomonic—that is to say, the patient had he not been cured first would undoubtedly have developed the disease. I have seen a case reported as one of parenchymatous cerebral syphilis cured by salvarsan, a case which would once have been called plain cerebral syphilis. The physician concerned added the illuminating observation that he did not think that any useful

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purpose was served by attempting to differentiate parenchymatous and interstitial forms of syphilitic encephalitis.

I feel that adoption of such views as these can only lead to confusion. Indeed there are signs that some anomalies already exist. For the purposes of clinical medicine and also for research it is essential that terms shall have a definite significance, not only in this country, but in all countries. Formerly the clinical term "general paralysis of the insane" had a very definite meaning. Clouston wrote: "General paralysis is not only a variety of insanity, but a true cerebral disease as distinct from any other disease as smallpox is from scarlatina." Discussing differential diagnosis Tanzi said: "The term syphilitic pseudo-paralysis is hardly justified. An acute clinical observer will have little difficulty in drawing between cerebral syphilis and progressive paralysis a perfectly sharp line of distinction, allowing of no intermediate forms." Kraepelin continued to hold a similar view. What is the position of most of us to-day? Are we right and were our predecessors wrong?

In illustration of some of the points referred, to I have selected a few cases which have been of special interest.

The first was the case of a middle-aged woman, with a typical alcoholic mental disorder and multiple focal signs of disease of the nervous system. On one foot was an old syphilitic scar. Pupils reacted badly to light and were unequal. Wassermann reaction positive in blood and cerebro-spinal fluid. This was in 1911, and consequently the diagnosis of general paralysis was made, although "mentally she does not resemble a general paralytic." No specific treatment was given. *Post-mortem* there were large gummata in both temporal lobes and a severe degree of hydrocephalus.

A young woman had an abrupt attack of confusion from which she partially recovered, being left with unilateral paræsthesiæ and a liability to minor epileptiform attacks. Positive Wassermann reaction of the blood and cerebro-spinal fluid; increase of cells and protein. On this she was diagnosed as general paralysis. A colleague treated her with neo-salvarsan by subdural injection. She recovered entirely.

A young man was admitted with mental symptoms of five months' duration. The mental symptoms were exactly those of Korsakov's syndrome. The physical signs were suggestive of disseminated sclerosis—spastic paraplegia, intention tremor of hands, nystagmus and diplopia. Pupils reacted well, but were unequal. Wassermann positive in serum and fluid, cells and protein increased. Treated with iodide and mercury for two years. Discharged recovered mentally and physically to resume his occupation as a carpenter.

None of these cases was a general paralytic, but the serological

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findings might perhaps have found them a place amongst the mixed forms.

A man, æt. 31, was admitted in August, 1910, with a scaly syphilide of the trunk and limbs, for which iodide and mercury were given from the day following admission. Mentally he belonged to the excited paranoid form of dementia præcox. He had an alcoholic history. Tremors of hands and face, but not of speech. Pupils reacted sluggishly to light and accommodation. Ten months after admission the blood and cerebro-spinal fluid gave a strong Wassermann reaction, and cells and protein were increased, but it was noted that " his condition and conduct resemble that of a chronic maniac rather than a general paralytic." The note finds its justification in the fact that to-day, eighteen years since his admission, he is in good health, works on the farm, has no sign of organic nervous disease and is characteristically paranoid. Last month his blood gave a strong Wassermann reaction. The cerebro-spinal fluid was negative but " some prevention of hæmolysis " was noted; cells and protein not increased. Lange's test gave a weak luetic curve. Is this a case of long remission or spontaneous recovery from general paralysis? I think not. He never had any of the signs of general paralysis, and it is not clear that syphilis was in any way accountable for his dementia præcox. One sometimes hears of general paralysis simulating dementia præcox. Could this have been such a case?

I believe that there is far too great a tendency to attribute to syphilis any mental disorder which happens to be associated with a positive Wassermann reaction. In 1910 a young man was admitted to hospital with dementia præcox and manifestly syphilitic. He remained turbulent, impulsive and practically untreatable until 1926. Then, when he was dying from syphilis of the aorta and liver, his mind became to all appearances normal for some weeks. *Post-mortem* there was no naked-eye evidence of disease of the brain, its membranes or its vessels. If syphilis had been a factor in the insanity is it conceivable that it would leave the brain seemingly intact after sixteen years, whilst proceeding to a fatal issue in other parts of the body? Moreover, this man had been a patient suffering from dementia præcox in 1902, and had contracted the infection two years after his discharge on that occasion.

Another case will illustrate this point with more relevancy to the present subject. A young man with insane heredity and alcoholic history was admitted in 1902 with an attack of acute mania. In a few months he recovered and was discharged. In 1904 he contracted syphilis. In 1912 he was again admitted in a state of acute mania following alcoholic indulgence. There were tremors of the lips,

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tongue and hands. The pupils were unequal, and the left reacted little to light or accommodation. Blood and cerebro-spinal fluid gave a strongly positive Wassermann reaction. Cells and protein were increased. The diagnosis of general paralysis could not be resisted. No treatment was given. The tremors cleared up. The pupils became small and equal, reacting to light through a small range. In a few months the mania subsided. After an adequate period of observation he was discharged, to all appearances normal mentally and physically. In the absence of the previous history it would have been very tempting to regard this as a case of recovery from general paralysis in an early stage, but there had been neither mental nor physical evidences of that disease.

The following case, observed at intervals over a long period, is of particular interest with regard to several points, especially the significance of pupillary changes. A woman was admitted in 1917 with confusion and severe depression. There was a history of severe headaches. The pupils were immobile, although they varied somewhat in size during the time the patient was under observation. Though the mental and physical features were not those of general paralysis, this diagnosis was made on the strength of changes in the cerebro-spinal fluid. The Wassermann reaction was strongly positive, cells much increased, protein moderately so. In view of the diagnosis no treatment was given. Yet the mental symptoms cleared up completely and the patient was discharged. In 1919 she was readmitted in an attack of confusion with agitation. This time the pupils were unequal, rigid to light, but contracted slightly on convergence. Mercury and iodide were given. Again she recovered and was discharged. Three years later, in 1922, she was found in a fugue behaving suspiciously on one of the Thames bridges. Taken to a general hospital she was diagnosed as syphilitic meningitis. As a result of treatment with mercury and salvarsan the cerebro-spinal fluid, at first positive, became negative in the course of a few weeks. The following year saw her admitted to another general hospital in identical circumstances. Similar treatment was carried out, again with benefit. In 1924 she came under my care once more, having been found in a long fugue walking about with an open razor, voices telling her to cut her throat. She had now developed many focal signs. The pupils were fixed to light and on convergence; nystagmus was marked. Both knee-jerks were exaggerated, with clonus. Both ankle-jerks were absent. The right plantar response was extensor in type. Recovering from her mental symptoms after the exhibition of mercury and iodide, she was discharged to continue anti-syphilitic

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treatment elsewhere. Need it be said that this case, diagnosed as general paralysis on serological grounds, was never a case of general paralysis at all? Yet what an opportunity for therapeutic claims was presented by a condition which showed apparent recovery after mercury and iodide, salvarsan or no treatment at all! Had it not been for the changes in the cerebro-spinal fluid the immobile pupils would probably have determined the diagnosis of cerebro-spinal syphilis as they would have done for a former generation. Total internal ophthalmoplegia followed by a return of the accommodation reflex produces the Argyll-Robertson phenomenon. But that sequence appears to differ in clinical significance and pathological basis from the phenomenon arising, as it were, *de novo*.

The two following cases, though obviously instances of meningo-vascular disease, showed eye changes which might have been referred to an associated parenchymatous disease.

A young man with active gummatous ulceration of the leg was admitted in 1911 in a state of confusion, intensely dull and amnesic. He showed bilateral third nerve palsy, almost total on the right side, partial on the left. The blood gave a strongly positive Wassermann reaction, but the cerebro-spinal fluid was negative. Cells and protein were increased. The administration of iodide was followed by great improvement, both mental and physical. He remained in a state of moderate dementia with unequal Argyll-Robertson pupils. In 1924 he was discharged to the care of his friends. Would the occurrence of a positive Wassermann reaction in the fluid at any stage of the disease have justified calling this case an example of the mixed form of general paralysis?

A man with the typical mental state of paranoid dementia was admitted in 1912. He showed extensive scarring of a syphilitic rash on the trunk and limbs. The left pupil was distorted by old iritis. After a course of iodide he showed no active signs of syphilis during a number of years. He was transferred to another hospital, but later returned in a state of profound dementia, which was rapidly progressive. There was right-sided hemiplegia. Speech was very indistinct; lips and hands tremulous. Both eyes were almost blind from optic atrophy. The blood gave a strongly positive Wassermann reaction. Repeated attempts to obtain the cerebro-spinal fluid failed. It might be suggested that here there was a combination of parenchymatous and meningo-vascular disease. At the *post-mortem* there was found gross hydrocephalus, with flattening of the convolutions, secondary to chronic basal meningitis, with a mass of fibrous tissue in the pineal region. The floor of the third ventricle, dilated to the size of half a walnut, had

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compressed and flattened the optic tracts to mere ribbons. There were multiple gross softenings due to vascular disease, the largest being in the upper portion of the pons. All the clinical features of the case were explicable by disease of the vessels and meninges.

These cases have been quoted, not because they are rare, but because I believe them to be relatively common. Together they constitute a very considerable class, and are able to affect appreciably the statistics of general paralysis if by chance they are confused with this disease. Cerebral syphilis assumes so many different forms and operates in so many ways that no unusual clinical finding should be given a final interpretation until after a careful *post-mortem* examination.

It is of the greatest importance that a definite distinction be maintained between typical general paralysis and the "mixed forms." From what has been said it should be manifest that such distinction has a practical bearing on the study of causes, the interpretation of therapeutic results and the development of fresh methods of prevention and cure.

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THE RELATION OF THE *SPIROCHÆTA PALLIDA* TO THE PATHOLOGICAL CHANGES OF DEMENTIA PARALYTICA.*

By J. F. SMYTH, M.D., N.U.I., D.P.M.Leeds,
Senior Assistant Medical Officer, West Riding Mental Hospital, Wakefield.

THE *rationale* of the malarial treatment of general paralysis has not, so far, been thoroughly understood. It has been believed by some that the remission is due to the destruction of spirochætes in the cortex by the intermittent waves of high temperature, which leave them no time to organize a defensive mechanism. This explanation assumes that the destruction of the spirochæte with, perhaps, its removal from the brain may result in a cessation of the active progress of the disease and, in some cases, in a complete return to normal cerebral function.

At one time it was to be feared that, in the interest aroused by the finding of the spirochæte in the cortex, the significance of the other histological changes of general paralysis would be largely forgotten. Now, however, we are again coming to realize the importance of the work of our older pathologists, to whose credit lies the elucidation of the detailed pathology of the disease.

Previous to the finding of the spirochæte in the cortex, our knowledge of the pathology of general paralysis resolved itself into a speculation as to whether the condition was due to a primary degeneration of the neurones, with reaction of the extra-neuronic tissue, or to a meningo-encephalitis with secondary neuronic degeneration. Bolton (1), in his investigation into the disease in all stages, showed that the essential features were a proliferation of vessels and neuroglia of varying severity, together with a mixture of acute and chronic nerve-cell changes. He also pointed out that the grosser naked-eye appearances of the disease, such as meningeal thickening and adhesions, decortication, cerebral wasting and excess of cerebro-spinal fluid, were secondary to these neuronic and interstitial changes. He concluded that, under the influence of different

* A paper (with clinical demonstration) read at the Annual Meeting, held at Wakefield, July 13, 1928.

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exciting causes, the condition might begin in either the neurones or the interstitial tissue, and that in the established state a vicious circle resulted.

It was in 1913 that Noguchi and Moore announced that they had been able to demonstrate the *Spirochæta pallida* in 14 out of 70 cases of general paralysis. They stated that the best regions to examine were the gyrus rectus and the temporo-sphenoidal lobes, and that the organisms were distributed in groups of hundreds, between which groups not a single spirochæte was to be found.

By improvements in their methods the spirochæte can now be detected in about 60% to 70% of cases. Some observers believe that they are present in all cases.

Beyond the statement that spirochætes are found most readily in those cases which run a stormy course, with seizures and convulsive attacks, no attempt has hitherto been made to correlate the presence of spirochætes in the cortex with either the pathological changes or the clinical condition. This would seem to be urgently needed, in view of the claims made for malarial treatment, and as a help to further therapeutic measures.

The results and conclusions presented here are based on the examination of a series of 52 cases of general paralysis, each of which has been followed clinically and verified *post mortem*. A few cases showing syphilitic changes in the cerebral arteries, but without any signs of general paralysis, and two apparently normal brains for control purposes have also been examined.

Method.

Sections were taken from the prefrontal, gyrus rectus, temporal, motor and visual regions. The morbid process is most active in these regions, and cerebral wasting progresses in the order given.

Sections from each region were stained by the following methods:

(1) Jahnel's stain for spirochætes (2). This stain, while very satisfactory in the detection of spirochætes, is also of great use in estimating the degree of vascular proliferation.

(2) Heidenhain's stain for neuroglia (3).

(3) Polychrome methylene-blue for neurones (3).

Results.

Spirochætes were found in 38 of the cases of general paralysis, or about 72%. They could not be detected in any of the other cases.

Besides the gyrus rectus and temporal lobe, spirochætes were readily found in the prefrontal and motor regions. Their incidence

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in the different regions examined was: gyrus rectus, 32; prefrontal, 34; psychomotor, 27; temporal, 26; visual, 5.

Of the cases in which spirochætes were found in the visual region two were of the juvenile type. One of these showed marked optic atrophy.

Relation to Clinical Condition.

Spirochætes are found most readily in the fairly rapid subacute cases showing a clinical history of grandiose delusions with progressive dementia and marked physical signs, and dying within six months to a year of admission. They are also found in large numbers in cases of the childish, facile, emotional, euphoric type (mainly female), and cases of the melancholic type.

In the rarer acute cases, in which the clinical history is one of marked mental confusion with rapid exhaustion, spirochætes are absent or few in number.

Similarly, in cases of the slow, dull, confused type, which become progressively demented without the development of grandiose delusions or any marked emotional exacerbations, spirochætes are absent or occur only in scanty numbers.

Chronic cases show a similar variation in the number of spirochætes present. Cases previously of the grandiose or emotional type exhibit them in large or moderate numbers. In those that have been of the confused, demented variety they are few or altogether absent.

Convulsive and paralytic attacks may occur during the course of any of the above types of case. The incidence of seizures in the clinical history does not, however, bear any definite relation to the presence of spirochætes in the motor cortex. In cases showing a predominance of such symptoms, the vascular change seems to be the important feature.

The active destructive changes in the temporal cortex, associated with the presence of spirochætes in that region, are very significant when taken in conjunction with the clinical history of grandiose cases. Bolton (1) has shown that disturbance of the auditory association areas plays a large part in the production of the hallucinations and delusions of grandeur in general paralysis. It is highly probable that the irritative effect of the spirochæte in the temporal cortex is an important factor in the symptomatology.

Paths of Infection.

The finding of spirochætes in definite areas of the cortex in general paralysis naturally leads to a consideration of the means by which they have gained access. The pathways of infection of

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the central nervous system, in cases in which no focal lesion exists, have long been a subject of discussion. The most interesting and convincing work on the matter is that of Orr and Rows (4). Their conclusions were as follows :

(1) In the spinal and cranial nerves there is an ascending lymph-stream to the central nervous system ; its main current lies in the spaces of the perineural sheath, and by this route toxins can reach the lymph-spaces of the pia arachnoid.

(2) The cerebro-spinal lymph flows into the adventitial spaces of the cerebral vessels.

Now, the cerebral blood-vessels passing into the cortex eventually divide into two varieties of branches : (*a*) A large number of short branches which supply the grey matter of the cortex, and (*b*) a small number of longer branches which pass through the cortex to supply a thin layer of subjacent white matter. Around the vessels lie the peri-vascular or adventitial spaces. It has been shown by Dunlap and Gladstone (5) that these channels are continuous with the pericapillary spaces. These are in turn in direct communication with the perineuronal spaces. Thus there is a unity of the adventitial lymph-stream and the general lymph-system of the central nervous system. Although the direction of this perivascular current of cerebro-spinal fluid is outwards towards the subarachnoid space, the experiments of Dandy and Weed (6) show that it is easily reversible, especially in pathological states, when there is a wide and free communication.

Trotter (7), summing up the relations of the vascular and lymphatic systems of the central nervous system, concludes that, owing to the irritability of nervous tissue, somatic structures like the blood-vessels cannot be admitted into direct contact with it. He regards the perivascular lymphatic system as a mechanism to insulate the blood-vessels from this contact. In support of this contention he cites the high degree of impenetrability of the choroid plexus to drugs and other foreign bodies—even the bile-pigments in jaundice—circulating in the blood, and the definite toxic action of cerebro-spinal fluid when brought into contact with somatic tissues.

The perivascular lymph-system is, therefore, the vulnerable pathway of the nervous system. It is by far the most common route, even in such acute conditions as cerebral abscess, infection being rare by the arterial or venous systems, and occurring only when the arteries or veins have previously been infected locally.

Orr and Rows have shown further that lymphogenous and hæmatogenous infections of the nervous system are characterized by distinct morbid phenomena. In lymphogenous infection the most

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marked changes, apart from neuronic degeneration, are the adventitial infiltration and interstitial reaction, while in hæmatogenous infection there is practically no disturbance of the adventitia, the main features being vascular dilatation, hæmorrhages with sclerosis and hyaline thrombosis, all pointing to stasis.

These observations and conclusions have an important bearing on the pathology of general paralysis from the spirochætal aspect.

In typical subacute cases, spirochætes are found in the lower part of the pyramidal lamina and in the deeper layers of the cortex. They are not so numerous towards the upper part of the pyramidal layer, and they are rarely seen in the outer fibre lamina. They lie in the tissue close to the small cortical vessels, few being seen near the large vessels. Associated with their presence we find a marked adventitial and interstitial reaction, which will be discussed in detail later.

On the other hand, in the rarer acute cases spirochætes are absent or scanty, and the main feature is a marked vaso-dilatation of the whole cortex, with, in places, small hæmorrhages and areas of thrombosis. There is practically no adventitial or interstitial reaction.

I think these findings warrant the conclusion that in subacute general paralysis the infection is lymphogenous, but that in the rapid acute cases the cortex is affected through the blood-stream. Such acute cases are possibly analogous to an acute tuberculosis where, the infection being hæmatogenous, tubercle bacilli are difficult to find.

The pathological changes in subacute general paralysis differ markedly in one essential from other lymphogenous infections of the cerebrum. In the latter, it is the layer of white matter below the cortex which is first affected, owing to its relatively poor blood-supply. The cortex itself is protected until quite late. In general paralysis the reverse is true and spirochætes are not found in the white matter subjacent to the cortex. This is somewhat remarkable in view of the close vascular relation of these two regions, but the spirochæte seems to have a predilection for the grey matter with its rich blood-supply.

Regional Distribution of Spirochætes.

Except in juvenile cases, spirochætes are not frequently found in the visual cortex in general paralysis, despite the fact that in this region we find marked pathological changes in cases of any appreciable duration. In the adults of the series examined, spirochætes were seen in the visual region in only three cases and in these they were present in scanty numbers. Other observers have also

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commented on their relative rarity in this region. The fact that spirochætes may be present in large numbers in the prefrontal, psychomotor, temporal and parietal cortex, while absent from the occipital region, suggests that the localization of the spirochæte in the cortex is definitely related to the distribution of the peri-vascular channels of the cortical arteries.

The occipital lobe is entirely supplied by the posterior cerebral artery, which turns sharply backwards round the pons to reach the visual region. The anterior and middle cerebral arteries, on the other hand, pursue a relatively straight course forwards to the prefrontal cortex and then backwards and upwards in the Sylvian fissure to the psychomotor, upper temporal and parietal regions. Now, the cerebro-spinal fluid, in its circulation, travels downwards inside the brain, forwards through the cisterns and upwards over the cortex. The basilar cistern comprises three longitudinal parallel canals, one round each artery. At each side it has an upward and forward continuation around the middle and anterior cerebral arteries respectively, and a backward flow along the posterior cerebral artery. The main course of the cerebro-spinal fluid is upwards. Hence, from a purely mechanical aspect, it is probable that spirochætes, having gained access to the subarachnoid space, take the line of least resistance, and are carried along the peri-vascular spaces of the anterior and middle cerebral arteries in the majority of cases, although some might be carried back along the posterior cerebral artery. That the subarachnoid space has previously been infected is shown by the fibrosis of the basal membranes which is a constant feature of general paralysis, even in the earliest cases. Now, the gyrus rectus and the upper temporal cortex are directly in contact with the incoming anterior and middle cerebral arteries, and they are the first regions of the brain in which perivascular products are likely to stagnate. As Noguchi pointed out, they are the best regions in which to look for the spirochæte, although in cases where these are present in large numbers they may be readily demonstrated in any of the cortical regions supplied by those arteries.

In juvenile cases, on the other hand, owing to the more intense infection and to the immature condition of the cerebrum, one would expect that the areas of distribution of the spirochæte would be more generalized. Hence, in these cases, spirochætes may be frequently detected in the cortical area of the posterior cerebral artery.

Viability of the Spirochæte in the Cortex.

The work of Noguchi (8), Berger (9) and Nichols (10) has proved that the spirochæte is capable of living in the cortex for a considerable

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time and of retaining the power of producing systemic syphilis experimentally by direct inoculation, although its infective powers seem to be altered. In 1915, Wile (11) showed that spirochætes from the living brains of paretics easily infected rabbits with experimental syphilis. He stated that they constituted a virulent strain with a shorter incubation period than existed with other strains.

The question now arises whether a special neurotropic strain of spirochæte exists. Many observers believe this to be the case. The experiments of Wile, however, show that the behaviour of the spirochæte in the cortex bears a close analogy to that observed by Levaditi in his work on corneal inoculation. Levaditi found that the spirochætes remained in the inoculated material unchanged for a time; then organization occurred and the spirochætes multiplied, with later still a more rapid increase and invasion of the tissues. The alteration in the period of incubation was not due to the passage of the organism through some cycle of development, but simply to its requiring certain conditions for growth which were not supplied for some time. Now, when we consider the existence of the spirochæte in the cortex, we have to take two important factors into account:

(1) Cerebro-spinal fluid and nerve tissue exhibit a marked toxicity to other body tissues. If cerebro-spinal fluid is liberated into the tissues, high fever is apt to result until tissue reaction produces encystment of the nervous products.

(2) The presence of the spirochæte in the cortex is associated with a definite specific neurological reaction. This will be discussed in detail later.

In view of these facts, nervous tissue is not likely to be a favourable medium for the growth of such a delicate organism as the spirochæte. In my opinion the alteration in the cultural characteristics of the organism in general paralysis is purely a question of adaptation to altered conditions and adverse environment. It is not likely to be able to multiply to any great extent in the cortex, and most probably the numbers present depend on the intensity and persistence of infection through the lymphatics.

Relation of the Spirochæte to the Vascular Changes.

The vascular change in general paralysis is a most important and constant feature, and is a reliable guide in estimating the duration of the disease. Many observers have commented on the apparent discrepancy which sometimes occurs between the duration of the mental condition and the degree of naked-eye morbid change in

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the brain. This, I believe, is because enough attention has not been paid to the minute cortical vascular changes. Jahnel's stain shows up these latter changes very well. Since syphilis primarily attacks the blood-vessels, it is to these that we should look for the earliest evidence of infection of the tissues. The central nervous system is no exception.

In acute cases of general paralysis the main feature is a marked paralytic vaso-dilatation of the whole cortex. The vessels, large and small, are relaxed and show marked blood stasis with, in places, extravasations into the surrounding tissues. There is only a slight plasma-cell peri-arteritis, and the condition is associated with marked acute neuronic changes. It is not surprising that in such cases the clinical condition should be one of acute confusion. As pointed out previously, spirochætes are absent, or present only in scanty numbers. Acute dilatation of the cortical vessels is also seen frequently as a terminal condition in subacute and chronic cases, but it differs from that of the acute cases in that there is advanced vascular proliferation throughout the cortex.

In subacute cases, vascular proliferation is a marked feature. It begins in the deeper layers of the cortex and extends upwards. Numerous small and medium vessels, showing a varying degree of plasma-cell periarteritis, are seen throughout the cortex.

In chronic cases the vessel proliferation is gross, the cortex being studded with thickened vessels and resembling granulation-tissue.

The progressive nature of this vascular change and its generalized distribution through the cortex and white matter point to the conclusion that this pathological process is part of a general change, and not entirely dependent on the local presence of spirochætes. It may be seen in any part of the cortex, irrespective of their presence, and it is capable of progressing to a fatal issue in their absence. It is analogous to the marked vascular changes in the other body-tissues which occur in systemic syphilis and in general paralysis.

Relation of the Spirochæte to Cerebral Wasting.

Except in acute cases, cerebral wasting is a constant accompaniment of general paralysis. It varies in degree, being marked in those subacute and chronic cases which show large numbers of spirochætes. This might at first suggest that the spirochæte is the cause of the cerebral wasting in general paralysis. It has been pointed out by Bolton, however, that this wasting begins in a definite region of the cortex, the prefrontal, and progresses in a definite order, being next apparent in the temporal, psychomotor and parietal

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regions. In other words, it is the expression of the breakdown and degeneration of neurones, first in the most recently evolved and least stable parts of the cortex, and subsequently in the region of earlier evolution. It is difficult to attribute this progressive change solely to the presence of spirochætes. If this were so, we should expect to find the wasting most marked where spirochætes are most plentiful. This, however, is not the case. The amount of wasting in any particular region is not a criterion of the number of spirochætes present in that region. For example, it is the rule to find marked wasting in the psychomotor region in cases in which seizures have been a prominent feature; but it does not follow that spirochætes are present in this region in such cases. Neither does the degree of cerebral wasting present in any case correspond to the degree of vascular proliferation. Cases showing the latter in gross amount may have only a slight or moderate degree of cerebral wasting and *vice versâ*. These facts are especially evident in cases of the confusional type, in which spirochætes are few or absent. Such cases may show gross vascular proliferation in the cortex with relatively little cerebral wasting, while others, with a similar degree of vascular change, show gross wasting. The clinical history of these cases is also significant. Some may avoid certification for years until an acute confusion sets in, which is rapidly fatal. In these, a marked amount of vessel proliferation with only moderate wasting will be found. Other cases break down at a relatively early stage of vessel change and run a slowly progressive course. In such we find marked cerebral wasting. Two examples are appended:

Case 16.—Male, æt. 48. Admitted January 10, 1926; died May 5, 1926. Total duration in hospital, 4 months; duration before admission, 1 week. History of syphilis at 38 years.

Mental state.—On admission he was dull, confused and restless. Unable to give a coherent account of himself. He became childishly grandiose after three months. He died after seizures.

Physical state.—Suggestive physical signs of G.P.I. present on admission. Blood and cerebro-spinal fluid Wassermann positive.

Post-mortem.—Slight subdural excess of fluid; no subarachnoid excess. Brain stripped with average difficulty. No decortication. Weight 1360 grm. No obvious wasting. Marked granularity of fourth ventricle.

Microscopical.—This case exhibited gross microscopical changes. The pyramidal cells in all regions showed marked degenerative changes, but wasting was not obvious.

Throughout the cortex in all regions there was gross vascular proliferation. The vessels were thickened and showed a well-marked plasma-cell periarteritis.

Neuroglial proliferation was marked in the outer fibre lamina in all regions. In the deeper layers there was a moderate chronic neuroglial reaction in the prefrontal and temporal regions. A few spirochætes were seen in the gyrus rectus and the temporal region. The other regions were negative.

Case 31.—Female, æt. 35, admitted November 5, 1926; died August 15, 1927. Total duration in hospital, 9 months. Previously under observation in union hospital over a period of 14 years for mental symptoms.

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Mental state.—She was dull, stupid and resistive. Unable to give any account of herself. Habits defective. She had several seizures, after which she went rapidly downhill.

Physical state.—Physical signs of G.P.I. present on admission; blood and cerebro-spinal fluid Wassermann positive.

Post mortem.—Marked subdural and subarachnoid excess of fluid. Stripped with decortication (24 hours after death). Brain, 1090 grm. Wasting marked in prefrontal, moderate in frontal and temporal, slight in parietal and occipital regions; marked granularity of fourth ventricle.

Microscopical.—This case showed marked degeneration and destruction of neurons in all regions. There was a moderate cellular infiltration of the cortex. There was gross vascular proliferation throughout the cortex in all regions. The vessels showed a moderate fibrous plasma-cell periarteritis.

Neuroglial proliferation was marked in the outer fibre lamina in all regions. It was scanty in the deeper layers. A few old spider-cells were seen near the vessels in the prefrontal and motor regions.

A few spirochætes were seen in the gyrus rectus and the motor regions. None were found in any of the other regions.

Hence it would seem that while the presence of spirochætes in the cortex aggravates the local pathological changes, cerebral wasting in general is an independently variable process, and takes place in the reverse order to that of the evolution of the cerebrum.

Relation of the Spirochæte to Neuroglial Proliferation.

Neuroglial reaction in general paralysis manifests itself chiefly in two regions of the cortex:

(1) In the outer fibre lamina. Here the extent of the neuroglial reactions depends on the duration of the disease. It represents the attempt of the cerebrum to repair the neuronic destruction.

(2) In the deeper layers of the cortex. Here the extent and intensity of the neuroglial proliferation in the different regions of the cortex is directly proportional to the incidence and number of spirochætes present in each region.

In acute cases this specific neuroglial reaction is slight or absent. In early subacute cases in which spirochætes are present in moderate numbers, many spider-cells and thin fibres are seen near the vessels in the deeper layers of the cortex. As the condition progresses, the cells become smaller and their processes thicker. In cases in which spirochætes are present in abundance, the nervous elements appear to be resting on a network of neuroglial cells and fibres. In chronic cases the cells become less numerous and more fibres appear.

In fact, one of the most striking features in the examination of a series of cases is this variation in the neuroglial reaction in the deeper cortical layers, both locally and generally. It seems to be the one pathological change which is directly dependent on the presence of spirochætes.

It may be unhesitatingly stated that the presence of spider-cells and neuroglial fibres in the deeper cortical layers is invariably associated with the presence of spirochætes.

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Relation of the Spirochæte to other Changes.

Cellular infiltration of the cortex is another pathological feature which shows marked variation. In acute cases it is composed mainly of extravasated blood-cells. In subacute cases it is, as a rule, well marked, consisting of neuroglial and plasma-cells and of lymphocytes. In chronic cases it is variable, and its intensity seems to depend on the number of spirochætes present.

Certain facts were noticed regarding plasma-cell peri-arteritis. It is slight in acute cases. In subacute cases, where spirochætes are numerous, plasma-cell peri-arteritis is moderate, and is associated with migration of cells into the surrounding tissue. In those cases where it is marked or slight, spirochætes are scanty and difficult to find. These observations suggest that this pathological process is a defence mechanism on the part of the cortical vessels to infection of the cortex through the perivascular lymphatics.

Conclusions.

The attempt made in this research to correlate all the clinical and pathological features of dementia paralytica may be summarized thus:

1. Acute general paralysis:

Clinical.—Marked mental confusion with rapid exhaustion. Physical signs suggestive.

Pathological.—Marked congestion of brain; subdural and subarachnoid excess of fluid slight or absent; cerebral wasting slight or absent; early granularity of fourth ventricle.

Microscopical.—Marked degeneration of neurones; slight cellular infiltration of cortex; early vascular proliferation in the deeper cortical layers; slight plasma-cell periarteritis; marked acute paralytic vaso-dilatation of the cortex; slight or no neuroglial reaction in the deeper cortical layers. Spirochætes scanty or absent.

2. Subacute general paralysis:

Clinical.—Grandiose, emotional and euphoric; less often melancholic and agitated; progressive intellectual deterioration; marked physical signs.

Pathological.—Marked subdural and subarachnoid excess of fluid. Marked cerebral wasting; marked thickening of pia arachnoid; marked granularity of fourth ventricle.

Microscopical.—Marked degeneration and destruction of neurones, marked cellular infiltration of cortex; very marked vascular proliferation throughout cortex with moderate plasma-cell periarteritis,

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marked neuroglial reaction through the cortex in prefrontal, temporal and motor regions.

Spirochætes present in large numbers in above regions. Visual region negative in majority of cases.

3. Chronic general paralysis:

(a) *Previously subacute.—Clinical.*—As before, but course of disease slower.

Pathological.—Very marked subdural and subarachnoid fluid excess; gross cerebral wasting.

Microscopical.—Gross degeneration and destruction of neurones; marked cellular infiltration of cortex; gross vascular proliferation throughout cortex; moderate to marked plasma-cell periarteritis; moderate to marked stationary neuroglial reaction in the deeper cortical layers in the prefrontal, frontal, temporal and parietal regions.

Spirochætes present in large or moderate numbers in these regions. Visual region usually negative.

(b) *Confusional type.—Clinical.*—Chronic mental confusion with progressive dementia. Physical signs marked.

Pathological.—Variable degree of cerebral wasting; marked degeneration of neurones; gross vascular proliferation throughout cortex; variable degree of plasma-cell periarteritis, sometimes slight, sometimes gross; slight chronic neuroglial proliferation in the deeper cortical layers.

Spirochætes few or absent.

A general survey of results leads to the conclusion that there are two distinct pathological processes at work in general paralysis.

(1) A local irritative and destructive change, confined mainly to the cortical regions supplied by the anterior and middle arteries. This change is associated with the presence of spirochætes in those regions, and is characterized by a distinct specific neuroglial reaction in the deeper cortical layers.

(2) A general vascular proliferative change accompanied by destruction and degeneration of neurones. This I believe to be mainly the reaction of the brain to the prolonged effects of syphilis, and to be analogous to the marked vascular changes which occur in the other body tissues in systemic syphilis and in general paralysis. It does not appear to depend on the actual presence of the spirochæte in the cortex.

The relative intensity and persistence of each process accounts for the variation in the clinical signs and the morbid changes in the different types of case. A preponderance of vascular change with few spirochætes is to be inferred in cases of the confused or demented type, while the presence of the spirochæte in large

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CASE 22.—*Chronic General Paralysis.*

Prefrontal cortex. Jahnel's stain, showing spirochaetes near small vessels.

Prefrontal cortex. Heidenhain's stain, showing marked chronic neuroglial reaction in the deeper cortical layers.

CASE 22.—*Chronic general paralysis.*—In hospital 2½ years. *Melancholic* type. Agitated and depressed, with frequent seizures. Brain 1,090 grm. Gross cerebral wasting. Gross degeneration and destruction of neurones in all regions. Gross vascular proliferation through the cortex. Marked chronic neuroglial reaction in the deeper cortical layers, except in the visual region. Spirochætes found in large numbers in the prefrontal, motor, temporal and parietal regions; visual region negative.

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CASE 1.—*Subacute General Paralysis.*

Prefrontal cortex. Jahnel's stain, showing spirochætes.

Prefrontal cortex. Heidenhain's stain, showing marked neuroglial reaction in deeper cortical layers.

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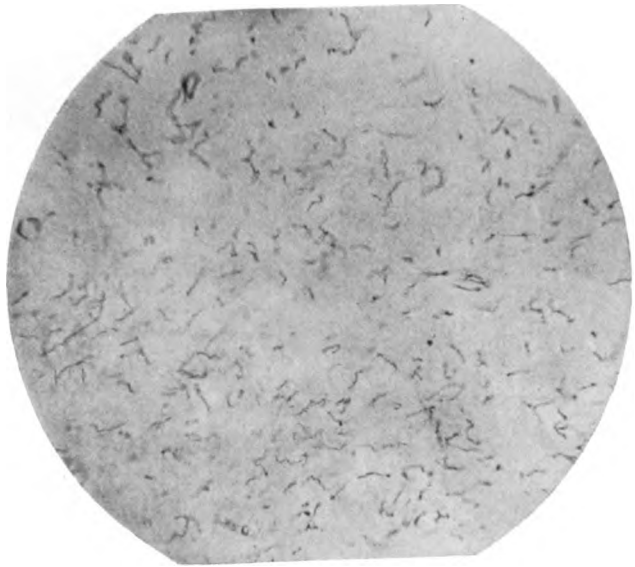
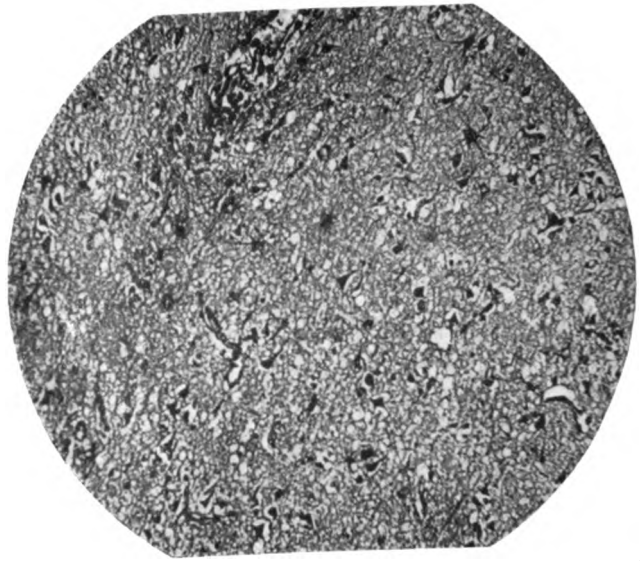


Temporal cortex. Jahnel's stain, showing spirochætes.



Temporal cortex. Heidenhain's stain, showing marked neuroglial reaction in deeper cortical layers.

CASE 1.—*Subacute general paralysis.*—In hospital 6 months. *Grandiose* type. Brain 1,200 grm. Marked cerebral wasting. Marked neuronic degeneration and destruction in all regions. Marked vascular proliferation through cortex. Marked neuroglial reaction in deeper cortical layers. Spirochætes present in large numbers in the prefrontal, temporal and motor regions.

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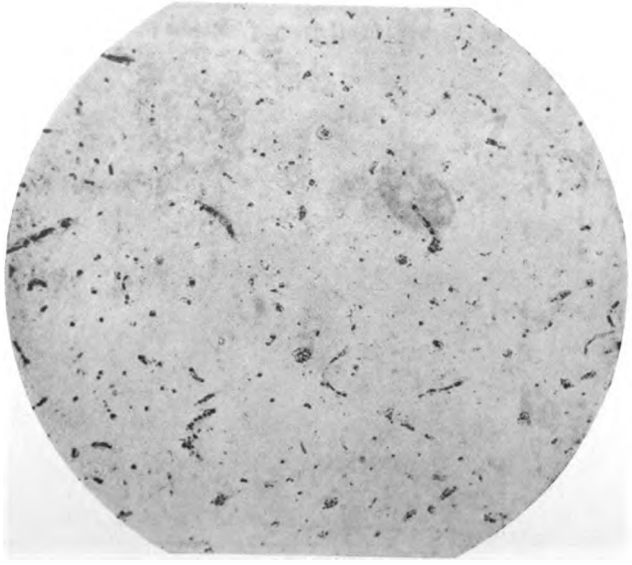
CASE 18.—*Subacute General Paralysis.*



Prefrontal cortex. Jahnel's stain, showing marked vascular proliferation through cortex. No spirochætes found.

Prefrontal cortex. Heidenhain's stain, showing neuronic changes, with relatively little neuroglial reaction.

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Motor cortex. Jahnel's stain, showing marked vascular proliferation. No spirochætes found.

Motor cortex. Heidenhain's stain, showing neuronic changes with relatively little neuroglial reaction.

Case 18.—*Subacute general paralysis.*—In hospital 1 year. *Confusional* type, with frequent seizures. Brain 1,230 grm. Marked cerebral wasting. Marked neuronic destruction in all regions. Very marked vascular proliferation through the cortex, particularly in the motor region. Relatively little neuroglial reaction in the deeper layers. No spirochætes found in any of the regions examined.

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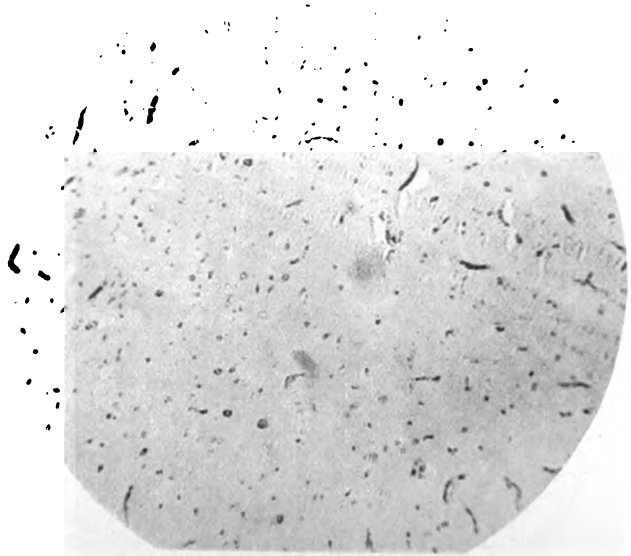
CASE 26.—*Chronic General Paralysis.*



Prefrontal cortex. Jahnel's stain. Marked vascular proliferation through cortex; no spirochætes found.

Prefrontal cortex. Heidenhain's stain, showing neuronic changes, with absence of neuroglial reaction in the deeper layers.

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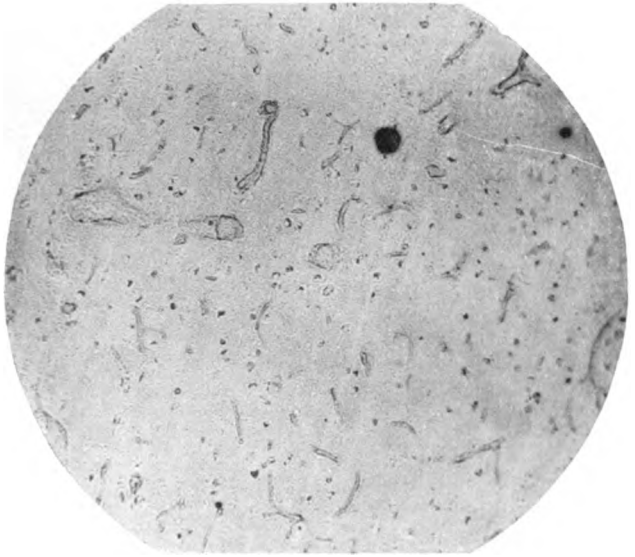
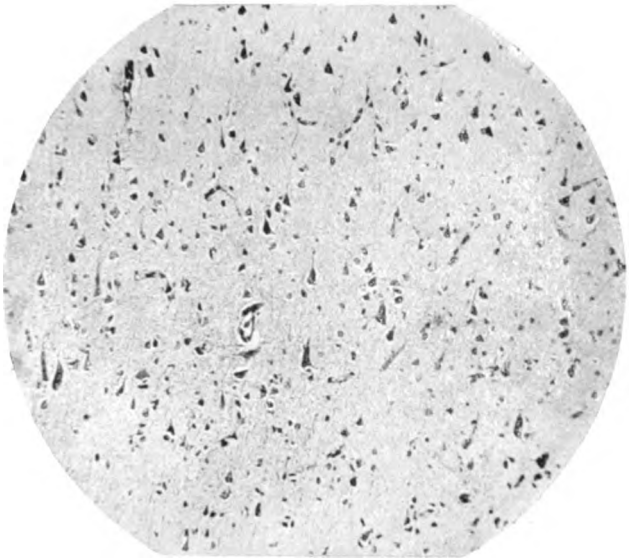


Motor cortex. Jahnel's stain. Marked vascular proliferation; no spirochætes found.



Motor cortex. Heidenhain's stain, showing neuronic changes, with absence of neuroglial reaction.

CASE 26.—*Chronic general paralysis.*—In hospital 2 years. *Confusional* type. Brain 1,230 grm. Marked cerebral wasting. Marked degeneration and destruction of neurones in all regions. Gross vascular proliferation through the cortex. Neuroglial reaction practically absent in the deeper layers. No spirochætes found in any of the regions examined.

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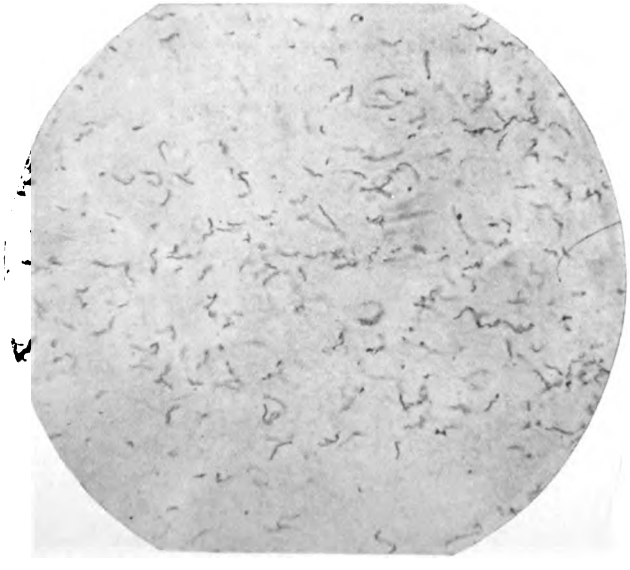
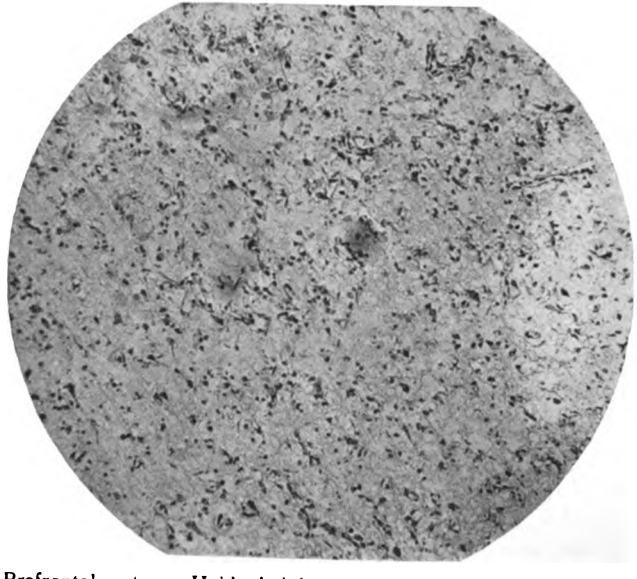
CASE 35.—*Chronic General Paralysis.*



Prefrontal cortex. Jahnel's stain, showing spirochætes.



Prefrontal cortex. Heidenhain's stain, showing marked neuroglial reaction in the deeper cortical layers.

CASE 35.—*Chronic general paralysis.*—In hospital 2 years. *Grandiose* type with seizures. Brain 1,240 grm. Gross cerebral wasting. Gross degeneration and destruction of neurons, with marked vascular proliferation through the cortex. Marked chronic neuroglial reaction in the deeper cortical layers, except in the visual region. Spirochætes present in large numbers in the prefrontal cortex, and in moderate numbers in the motor and temporal regions; visual region negative.

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numbers in the cortex is characteristic of the more active grandiose or emotional type.

From the therapeutic point of view, it is interesting to record that in the treatment of general paralysis by malarial inoculation and tryparsamide, the best results, so far, have been obtained in grandiose cases and in those with agitated melancholia. In cases of the confused or demented type, little or no improvement has followed.

In view of these facts, the above pathological findings may seem paradoxical, but there is no doubt that the majority of the confusional cases do not reach a mental hospital until the disease has advanced sufficiently to cause permanent damage to the cortex. Such cases cannot be cured, and arrest of the morbid process is the most that can be hoped for. The emotional type of case, by reason of a more active mental alienation, comes under observation at an earlier stage of the disease.

Whether the removal of the spirochæte from the cortex will result in inhibiting the vascular proliferation and the neuronic degeneration is a matter of speculation. The fact that, after treatment by the present therapeutic methods, there is little alteration in the cerebro-spinal fluid reactions suggests that all the pathological factors have not yet been countered.

Examination of the other organs of the body in general paralysis also reveals this tendency to excessive vascular proliferation. The marked fibrosis of the aorta and other arteries shows the process in the vascular tissue itself. It is also well recognized that, in general paralysis, slight injury to any tissue will be followed by gross over-repair. These changes are a manifestation of a pathological process which reaches its climax in the central nervous system. Here perhaps the most striking feature is the amount of vascular change which can take place in the cortex without giving rise to obvious mental disturbance. It would seem that the vascular process is capable of proceeding for a considerable time until neuronic breakdown in the last developed and least stable parts of the cortex precipitates the onset of mental symptoms.

The work of Fildes and McIntosh on parasyphilis of the nervous system led them to conclude that hypersensitization of the nervous system was produced, in all probability, by the passage of the spirochæte or its toxins up the nerves from the skin and mucous membranes during the secondary period. If such is the case, the routine examination of the cerebro-spinal fluid in early syphilis offers the best hope of diagnosing involvement of the nervous system. A well-known pathologist has recently made the suprising statement that lumbar puncture is not justifiable in cases of early syphilis,

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since only 2% show any change in the cerebro-spinal fluid. Yet, it is a significant fact that only 2% of all cases of syphilis develop general paralysis. Thus it is not unlikely that cases of early syphilis which show changes in the cerebro-spinal fluid are potential paretics, and it is to such cases that our present therapeutic methods might, with advantage, be applied.

I am deeply indebted to Prof. Shaw Bolton for his kindness in providing facilities for observation and research.

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VARIATION IN AGGLUTININ FORMATION IN MENTAL HOSPITAL PATIENTS AND ITS PROBABLE RELATION TO FOCAL SEPSIS.*

By F. A. Pickworth, B.Sc., M.B.,
Director for Joint Board of Research for Mental Diseases, City and University of Birmingham.

It is well known that injection of protein substance into the blood causes the appearance in the blood of antibodies to the protein. Injection of bacteria is followed by the appearance of several kinds of antibodies, and the substances which produce "clumping" constitute one, or rather two, of these antibodies. The appearance of agglutinins in the blood following vaccination or infection has been shown to occur regularly in such a large number of individuals, and in animals, that there can be no doubt that this production of antibodies is a natural phenomenon connected with successful resistance to the deleterious effects of the organisms. Non-production or abnormalities in the production of agglutinins following injection of bacteria represents a pathological process probably of the nature of sepsis.

The following figures illustrate the reaction of a series of mental hospital patients to intravenous injections of T.A.B. vaccine.

Fig. 1 shows the average of 50 cases, and may be taken as a control of the remaining figures.

Fig. 2 shows an approximately normal curve, and indicates by lines below the scale that other Salmonella and dysentery agglutinins are not produced. One would expect similar curves from every normal individual.

Fig. 3 shows the reaction of another patient to the same vaccine given from the same bottles and at the same time. I have asked many eminent pathologists and bacteriologists why in this case there is no measurable reaction to the *Para. A* and *Para. B* antigens which have been injected, but it appears that the cause is not yet known.

Fig. 4 is of interest in that it shows that after an interval of four months there was again no reaction to *Para. B*, even although there was no doubt that the antigen of *Para. B* was injected into

* A paper read at the Annual Meeting held at Wakefield, July 13, 1928.

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the system. The same slide also shows the appearance of agglutinins to Gaertner (G.) and Aertrycke (M.), whose antigens were certainly *not* injected with the vaccine.

One individual, whose reactions to typhoid are distinctly abnormal, shows an exactly similar type of Gaertner (G.) and Aertrycke (M.) agglutinin formation at an interval of five months (Fig. 5).

Fig. 6 shows the appearance of agglutinins to Aertrycke (M.) and dysentery Y, but what is of greater importance is the rapid disappearance of all the agglutinins within a few weeks. It may be remarked that in a healthy soldier agglutinins after vaccination often persist much longer than two years.

Fig. 7 is shown as an interesting result in which the response to vaccination with T.A.B. gives an enormous amount of agglutinins to Aertrycke (Mutton and Newport), and practically no reaction to typhoid.

It is impossible to discuss fully the many problems which arise from these abnormal reactions. They probably have a similar cause to that which is put forward in connection with one of them, namely the rapid disappearance of agglutinins.

It has been shown that injection of bacterial antigen may cause a production of agglutinins for other similar organisms, although the quantity is very small in comparison with that specific for the bacterium injected. It is also known that the injection of a sharply specific antigen such as typhoid or paratyphoid A may, in a person who previously has a titre to another organism, cause the production of agglutinins in a manner quite independent of, and without affecting this titre. Further—and this may seem somewhat paradoxical—the injection of an antigen, especially if less specific, *e.g.*, *Para. B*, may cause the appearance of agglutinins to a heterogeneous organism as has been shown in Figs. 4, 5, 6 and 7. It is reasonable to expect that an individual who has had the mechanism to produce certain agglutinins trained in consequence of infection would, on any subsequent stimulus of infection of similar although not identical nature, continue to produce agglutinins to the organism of the first infection. However, this argument is probably fallacious, since it might be that there remains somewhere in the system organisms of the first infection which might possibly gain entrance into the blood-stream when the resistance is temporarily depressed by some other infection, or by injection of a not too dissimilar antigen. Wright and Lamb found that infecting micro-organisms could grow in such regions as a blocked capillary or lymph-vessel in which antibacterial substances were absent or diminished.

Agglutinins may disappear from the blood in febrile conditions caused by infection or chemical agents, although the irregularity of

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this phenomenon has given rise to some controversy. The records of the medical history of the Great War show that after the height of an enteric infection has been passed, the agglutinins to a heterologous organism often fall to one-fifth of the original titre. Besredka found that feeding animals with organisms a few months after a previous vaccination with the same organism caused the titre to fall from a high figure to an extremely low level. It is obvious that previously high agglutinins may be reduced by the cessation of production of the particular agglutinin, coincident with the process of alteration or destruction of the existing serum-globulin, such as occurs in fever, or in an urgent demand for the neutralization of large quantities of other antigenic substances which have found their way into the system. One of our own cases of suspected typhoid gave only a trace of agglutinin (below 7 Oxford units) on two occasions, but had a Gram-positive bacillus in the blood. *Post-mortem*, *B. typhosus*, agglutinating in high dilutions, was recovered from the liver, spleen, kidney and a nodule in the aorta.

The main part of this paper, however, is a consideration of how the system may be invaded by organisms with the production of antibodies for their destruction and removal from the system. It is known that the upper part of the small intestine is sterile, and that the colon type of bacilli are abnormal when they occur above the lower part of the jejunum (1).

Knott, Bogendorfer, Gorke and others find that in cases of achlorhydria the bacterial contents of the duodenum and ileum tend to be fæcal in type. "The organisms normally present in the jejunum evidently migrate to higher levels—a fact clearly illustrated by the results of routine examination of specimens from over 200 cases obtained *viâ* the duodenal tube" (1). Arnold and Brody note that in conditions in which the reaction of the duodenum is neutral or alkaline for any length of time, the bacterial flora changes to that found in the ileum or cæcum. Abnormal organisms in the upper duodenum undoubtedly occur in such conditions as pernicious anæmia (2).

It is a common mistake in medicine to lay too much stress on the exact type and variety of the infecting organism. *Paratyphosus A* and *Para. B* are quite dissimilar organisms, but produce similar clinical disease. Robinson tested 150 strains of *B. typhosus* serologically and found that none reacted alike. Durham considered that many varieties of the typhoid organism might be present in an attack of the disease, and that the system, on recovering from one, might be attacked by another. Mayer and Neilson state that a person immunized against typhoid may become infected, and when this occurs the bacilli may be so altered that they are not recognized;

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however, such bacilli on gaining access to a non-immunized person may regain the typical characteristics of *B. typhosus*. In typhoid fever organisms are present continuously in the upper part of the duodenum, where they may, and often do, persist long into convalescence, and it is surmised that organisms of the typhoid and food-poisoning groups all possess this property of living high up in the small intestine.

It has been shown by the analogy of feeding animals with peptonate of iron (3) that the leucocytes of the intestines take up bacteria in the same manner as they take up food, and transport them to the liver and spleen, where, according to Adami (3), "the bacteria so transported multiply until the tissues react, causing their lysis, and the liberated toxins then destroy the neighbouring tissue . . ." "They represent not simultaneous infection but the summation of a succession of minute assaults on the tissues, sometimes occurring in a few days or weeks, but often extending over years." Desgorges describes a similar process, by which the bacteria find their way into the thoracic duct, and thence into the blood. Tissue invasion and bacteriæmia from high intestinal sepsis therefore accounts for an urgent demand for agglutinin formation through the presence of new deleterious bacterial protein.

An important connection between intestinal and focal sepsis is apparent from the above, when we consider the probable fate of some of the leucocytes whose function it is to procure food in the manner described. In high intestinal sepsis enormous numbers must be poisoned as they reach the intestine, following ingestion of organisms, and probably never return to the system; or if they do they may die on reaching the liver. This may account for the leucopenia in typhoid fever and pernicious anæmia, and for that occasionally found in cases of mental disorder associated with conditions of focal sepsis that would tend to cause leucocytosis, and it may possibly account for the variations in the leucocyte count in cases of mental disorder. There is an undoubted relation between the leucocytes and the formation of agglutinins as shown by Stenstrom, Moreschi and Howell. We have examined specimens of fæces from dysentery patients which consisted almost entirely of leucocytes. We have, therefore, a possible explanation of two important causes of focal sepsis, *i.e.*, a bacteriæmia and a depletion of leucocytes.

Garrod pointed out that "bacterial infections do not necessarily cause disease; only when the body begins to defend itself against attack does trouble arise." Bacteriæmia does not necessarily involve a fatal septicæmia when the bactericidal condition of the blood is high for the particular organisms which are able to enter

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the blood-stream. Such organisms as are not immediately killed, however, can exist only in a state of extreme inhibition such as occurs when grown in immune sera; but just as in the experiments of Parish and Okell it was found that a non-fatal injection of streptococci *plus* anti-serum produced late secondary effects such as purulent arthritis, so intestinal organisms in similar circumstances may give rise to focal sepsis, as in typhoid osteitis and probably in apical infection of teeth. The organisms are not necessarily all pyogenic, or if pyogenic, do not always produce pus in a system depleted of leucocytes in the manner described above. Another important effect of high intestinal infection is that the individual suffers from starvation, with its deleterious consequences, and is supplied with bacterial toxin instead. Special food-stuffs, *e.g.*, vitamins, may become useless by non-absorption, destruction or excessive utilization, giving a condition worse than simple starvation (4).

Fig. 8 shows dilatation of the stomach in vitamin deficiency—itself a cause of high intestinal infection. Webster found that vitamin-rich food protected mice against typhoid: 15% only were fatal as against 100% controls. McCarrison showed that deficiency of vitamin B in wild monkeys rendered the intestinal tract susceptible to invasion by bacteria. His description of the *post-mortem* findings in such conditions might apply to almost any case of mental disease. It has been our experience to find almost constantly dilatation, ballooning, discoloration and congestion of some parts (not usually the whole) of the small intestine, with thinning of muscular coats and atrophy of the mucosa and the occurrence of enlarged lymphatic glands, which leave no doubt that chronic bacterial invasion from the upper part of the small intestine is common, if not universal, in the acute phases of mental disorder. Clinically it is known that undigested food may remain in the stomach of insane persons for eighteen hours or more. The frequent occurrence of delusions of poisoning further substantiates the theory of gastro-intestinal sepsis; indeed the symptoms of delusions of poisoning and of refusal of food should be taken as evidence of disordered conditions of the intestinal tract, the subjective disturbances of which are dimly recognized by the patient.

Local damage to the intestinal epithelium allows the entrance of other undesirable organisms or their toxins, especially *B. Welchii* and the streptococci. The character of the normal intestinal epithelium is such that there is a selective absorption of material useful for food. When this epithelium becomes damaged then this property must necessarily be disturbed, allowing the absorption of deleterious products of bacterial action, which is without doubt

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detrimental to the general health. If the products formed are toxic to nervous structures, this will give rise to intellectual and emotional deterioration or to specific nervous effects such as occur with botulinus toxin. Bacteria interfere with the normal digestive processes in yet another way by producing highly toxic products by decarboxylating certain protein constituents, giving amino-compounds which are amongst the most powerful pharmacological substances known. For example, tryptophane by decarboxylation gives the poisonous indolethylamine, whereas if it is previously deamidized its products are harmless. Similarly the useful and non-poisonous histidine on decarboxylation becomes iminoazoethylamine, actually found by Boyd in the intestinal mucosa of children dying from intestinal toxæmia. Chronic poisoning by these products further weakens the resistance of the tissues to the associated high intestinal sepsis. Bolton and Salmond describe anti-peristalsis in the duodenum as a normal physiological process, and regurgitation through the pylorus is not at all uncommon, as evidenced by the traces of bile and even of pancreatic secretion found in test-meals. In high intestinal sepsis the organism thus obtains access to the stomach, and if vomiting occurs, even the nasal sinuses may be reached.

That organisms of the paratyphoid (Salmonella) class occur in mental hospital patients has been repeatedly emphasized in the past, and this is all the more interesting in view of the findings of Price-Jones. When a colony of rats is infected with Gaertner bacilli, the survivors contain these bacilli in the spleen and liver. After five months some Gaertner bacilli may be still present; the rats appear healthy, but can initiate an epidemic of Gaertner if placed with normal rats. Stewart finds Gaertner agglutination in mental hospital patients, and many varieties of organisms of the Salmonella (food-poisoning) groups in the fæces.

Organism.	Total agglutinations.		One organism only agglutinated.		Mixed agglutinations.	
	Number.	%	Number.	%	Number.	%
B. typhosus	353	11·5	199	6·5	154	5·0
B. paratyphosus A	108	3·5	19	0·6	89	3·0
B. paratyphosus B	155	5·0	48	1·6	107	3·5
B. paratyphosus C	45	1·5	14	0·5	31	1·0
B enteritidis (Gaertner)	141	4·6	70	2·3	71	2·3
B. aertrycke (Mutton)	114	3·7	55	1·8	59	1·9

This table does not include known vaccinated cases.

FIG. 9.—Agglutination Results, 1925–1928. Total specimens examined, 3,074. Positive, 916 = 29·8%.

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Fig. 9 shows our figures for 1925–8, and indicates that 30% of specimens of serum from mental hospital patients agglutinate pathogenic organisms of the typhoid-food-poisoning bacterial groups; of these *B. Gaertner* is very predominant.

A vicious circle is established when focal sepsis affects the upper respiratory tracts, as, for example, in sphenoidal sinusitis.

Fig. 10 shows an infected sphenoid which is obviously continually pouring out pus to be swallowed, thus producing local damage of the stomach and intestine. Further, by local spread of toxins from the sinus the pituitary-hypothalamic region of the brain is affected, one probable effect of which, as occurs with temperature, fatigue and

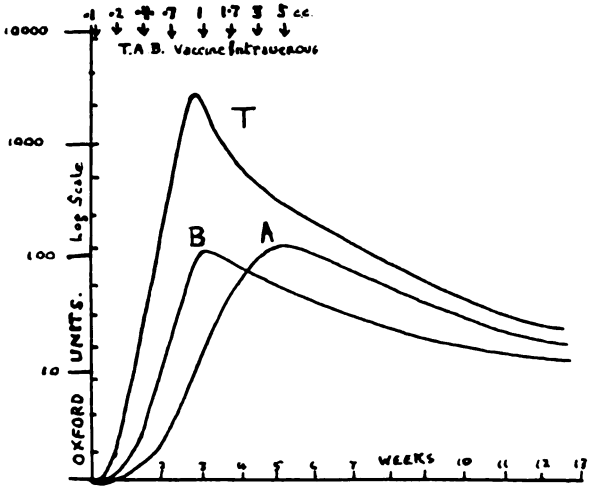

FIG. 1.

emotional disturbances, is a central inhibition of gastric secretion. Organisms of the intestinal type are not uncommon in the nasal sinuses, and the possible relation of these to intestinal infection is shown by analogy with the following case: "A well-built private, wounded in the tibia in the Great War, contracted typhoid in the base hospital in Mesopotamia in 1916. He recovered, but became a carrier of typhoid, in addition to which his wound did not heal. He was invalided home and deteriorated to a physical wreck until in 1919, when he was still a typhoid carrier; at an operation for cleaning the wound of the tibia the anæsthetist insisted on the removal of false teeth; the man protested, saying they had not been taken out for eight years. The anæsthetic had to be administered before the plate could be removed. The foul-smelling plate was

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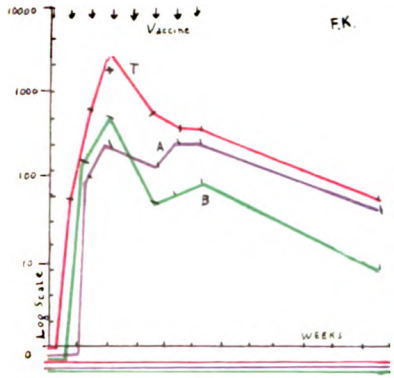

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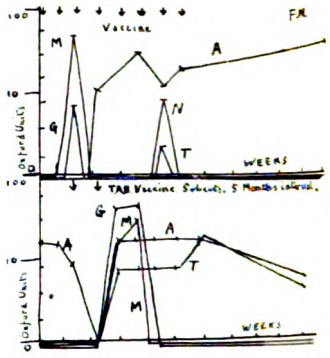


FIG. 5.

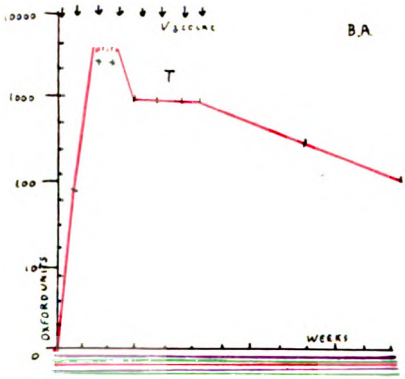
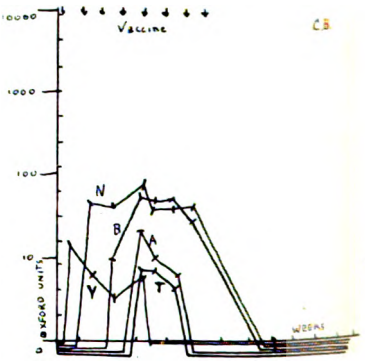


FIG. 3.



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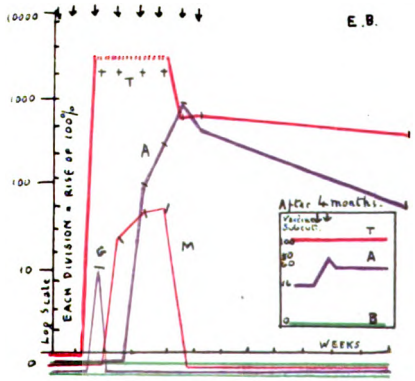

FIG. 4.

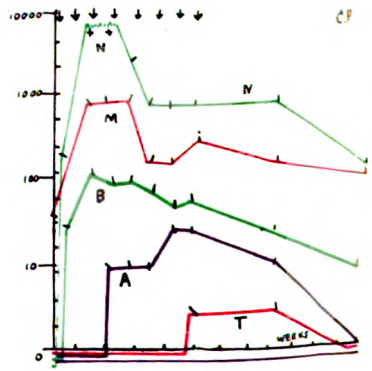

FIG. 7.

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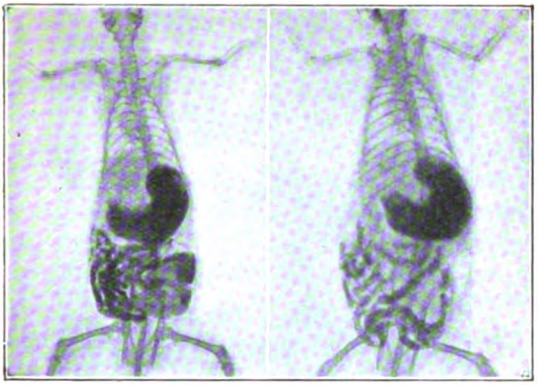
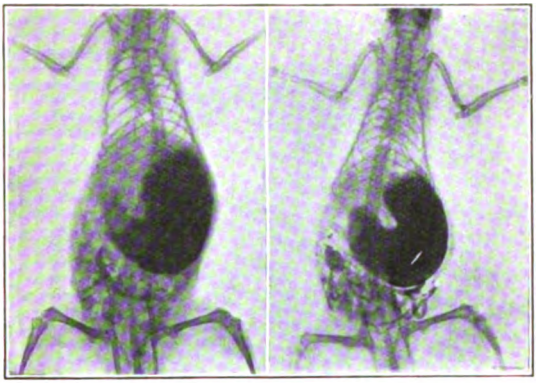


Radiogram of control rats fed on normal diet.



Radiogram of rats fed on a diet deficient in vitamin B, showing ptosis and dilatation of the stomach.
Rowlands & Browning, 'Lancet,' 1918, i, 180.

FIG. 8.

FIG. 10.

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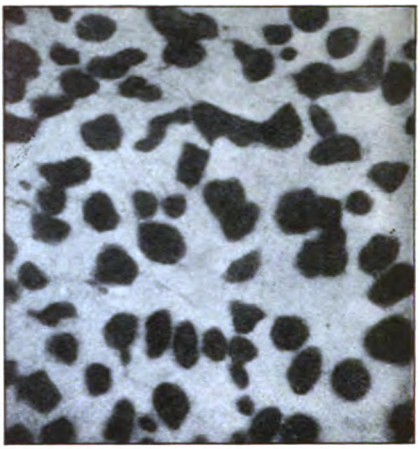

FIG. 11.

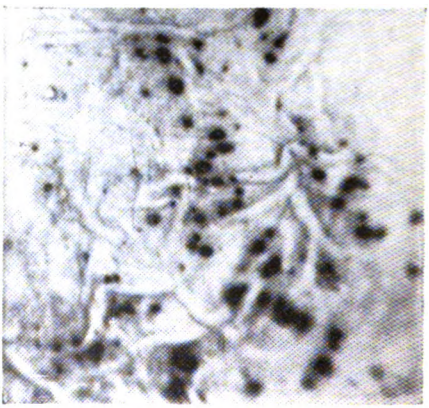

FIG. 12.

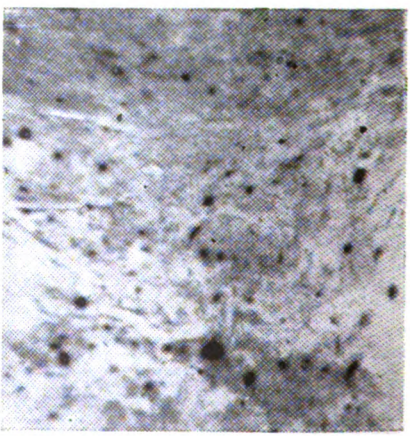

FIG. 13.

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sent in a sterile dish to the bacteriologist, who reported it to be 'loaded with typhoid.'"

Inflammation of the sphenoidal sinus has also been shown to be a probable primary cause of a diplococcal septicæmia which produced thrombosis of the small vessels of the stomach and the striking hæmorrhagic condition seen in Fig. 11. There were practically no organisms on the surface of the mucosa in this case so that there can be no doubt as to the cause of the condition being a thrombosis of the deeper vessels of the stomach by a hæmatogenous infection.

The two figures, 12 and 13, show these hæmorrhages in different stages of resolution, finally resulting in superficial erosions, pitting and atrophy of the mucosa. It is remarkable that gastric irritation was noted to be associated with mental disease by Broussais as early as 1822.

Local damage of tissue in a patient with bacteriæmia may result in focus of bacteria, which, even if dead, exert a deleterious local effect and prevent rapid and complete healing, as in the non-healing of the tibia of the typhoid case mentioned above. It is submitted, for example, that should a person develop acute sinusitis by infection with Pfeiffer's influenza bacillus at a period when there is a bacteriæmia from a high intestinal sepsis, then a chronic nasal sinusitis is much more likely to result than in a normal person similarly infected with influenza.

The inter-relation between focal sepsis and the variation in agglutinin-formation of the insane may therefore occur through the medium of a high intestinal sepsis caused or induced by infection with paratyphoid or food-poisoning organisms. Poisoning and loss of leucocytes in the intestinal tract, a bacteriæmia of intestinal organisms, most of which are rapidly killed, and re-infection from pyæmic focal sepsis originally caused or initiated by the bacteriæmia, are highly probable factors in this relation.

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A DESCRIPTION OF THE STEPS TAKEN IN A MENTAL HOSPITAL TO PREVENT THE SPREAD OF DYSENTERY AND ALLIED INFECTIOUS DISEASES.*

By M. J. McGrath, M.B., B.Ch., D.P.M.

Wakefield Mental Hospital was opened in the year 1818. Within a few days there appear in the case-books notes describing patients suffering from diarrhœa with blood and mucus. During the years 1818 to 1910 these or similar notes appear with such monotonous regularity that it would lead an outsider to believe that dysentery and its allied diseases were natural or at least unpreventable in asylums.

In 1910 it was decided to consider seriously what steps could be taken to control, and if possible to eradicate, these diseases, which have proved such a menace to the health of the patients. Since 1915 I have had personal knowledge of the measures adopted. During the war (1914–1918) the work was more or less in abeyance owing to the partial closing down of the laboratory. In 1919 it was possible for the laboratory to resume its normal work, and the scheme commenced in 1910 was taken up again and actively developed.

I do not propose to deal with dysentery generally, but to confine myself strictly to a description of the administrative measures adopted against the occurrence of dysentery in this hospital. My excuse for so doing is that the disease is so widespread in asylums that it is commonly known as "asylum dysentery"; and as the measures to be described are of an eminently practical nature, I hope that this paper may prove of some interest to all but that very small and much-to-be-envied number who can honestly say that dysentery is an unknown disease in their institutions.

I propose to describe firstly the general measures taken to prevent as far as possible the introduction of fresh infection, and

* A paper read at the Annual Meeting, held at Wakefield, July 12, 1928.

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secondly to describe the special measures taken when an actual case or outbreak occurs in a ward.

If we wish to combat this disease effectively the first essential is the provision of isolation wards, in which those actually suffering from the disease, together with all suspects, may be placed. Each ward must be of tolerable size, since such a ward, though constantly receiving additions to its numbers, cannot transfer its patients elsewhere. Moreover, an isolation ward should have accommodation for both sick patients and for patients who are up—in fact it must be capable of receiving any type of patient who develops dysentery.

At this mental hospital Wards 21 and 22 in the main building on the female side were selected as isolation wards. Ward 21 has accommodation for 44 patients and Ward 22 for 74 patients. Ward 21 is regarded as a sick ward, and all acute cases or bed-ridden cases are nursed there. Ward 22 contains active and healthy patients. The airing-courts of these two wards are so situated that the patients while exercising do not come in contact with those of any other ward. The position of these two wards in relation to the kitchen, laundry, recreation hall, etc., is such that patients and staff, in passing to and fro, can do so without entering any other ward. These wards are so close to the recreation hall that if a patient wishes to make use of the lavatory during an entertainment she can be brought back to the lavatory in her own ward—a thing which is specially desirable in the case of female patients. With regard to the laundry, all dirty linen, both bed and body, blankets, etc., are placed in special receptacles, which at certain times daily are taken direct to the foul linen entrance to the laundry. The only means of communication between the foul linen department and the general laundry is through the stoving machine.

On the male side, in addition to the isolation hospital, Wards 36 and 36*a* were set aside for the segregation of active and suspected cases. These two wards contain accommodation for 102 patients. They consist of a modern block connected by a glass corridor to the main building. Ward 36 constitutes the ground floor of the block, whilst 36*a* forms the first floor. Ward 36 is staffed by male and Ward 36*a* by female nurses. Both wards accommodate sick patients.

All the patients in the hospital were examined with a view to discovering those who needed isolation. The method adopted was to subject the blood of each patient to the Widal test for dysentery and enteric. Every patient whose blood gave a positive result, even though no history could be obtained of the patient's ever having exhibited clinical symptoms of the disease, was deemed to

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be potentially dangerous, and was transferred to one of the isolation wards. The number of patients needing isolation discovered by this means was 143. The blood of each member of the staff was also examined, and those whose blood gave a positive result to the Widal examination were put on duty in the isolation wards. At the end of the year 1919, 114 female and 92 male patients were in isolation.

After all the dangerous and potentially dangerous patients had been isolated, it was decided as a prophylactic measure to inoculate the remainder. For this purpose a vaccine was prepared containing the three then prevalent strains (*V*, *Y* and *Z*) of Flexner's bacillus, and also Morgan's No. 1 bacillus, and this was administered to all the remaining patients in the male and female chronic blocks. The vaccine was injected hypodermically into the upper arm. It contained two thousand million organisms per c.c. Two doses were given, the first of ·5 c.c., the second, ten days later, of 1 c.c. The local and constitutional results following the inoculations were slight and do not call for any special comment.

In 1922, owing to the incidence of the disease in populous wards, the number of patients needing isolation on the male side had increased so much that it was necessary to convert Ward 37, which adjoins Wards 36 and 36*a*, into an isolation ward. This ward is staffed by female nurses.

In 1925 a similar state of affairs arose on the female side owing to the reception of 50 female patients from another mental hospital, and a detached block well suited for the purpose and containing 57 beds was added to the existing isolation accommodation for female patients.

The admission of new cases is an ever-open channel through which fresh infection may be introduced into the hospital, and measures had to be devised for the detection of those bringing infection. At Wakefield one ward on the male and one on the female side are set aside for the reception of new patients. This has the advantage of leading to greater precision, accuracy and standardization of the methods of both the medical officers and the nursing staff in dealing with such cases. It is now the routine practice for the blood and the fæces of each patient to be examined directly after admission. A Widal examination of the blood is made for both dysentery and enteric, and if the result is positive the patient is forthwith transferred to an appropriate isolation ward. Specimens of the first three motions after admission are sent to the laboratory. If the laboratory reports the presence of *B. dysenteriæ* or *B. typhosus* or *B. Morgan* No. 1 from the stools, the patient undergoes special care in the isolation ward to which he has already been sent.

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Should, as rarely happens, a positive stool occur in an admission who has not given a positive Widal, the patient would be at once transferred to an isolation ward.

It has been our custom for several years to include in the routine physical examination of each probationer nurse on joining a blood examination by the Widal method for dysentery and typhoid. The figures for five years show that out of 467 probationers 83 had to be rejected. These figures indicate that the probationary staff provide a source of infection quite as formidable as the new patients.

As a final point in dealing with the general prophylactic measures, I would like to point out how unsuccessful all of them will be unless the intelligent co-operation between the medical and the nursing staff can be obtained. It is a slow and tedious task to educate the staff to realize the seriousness of these diseases and be ever on the alert to detect an attack of diarrhœa. The nurse must be also very carefully trained in the steps to take when she discovers such a case.

The consideration of this question brings me to the second part of my paper, namely, a description of the special steps taken when an actual case occurs in a ward.*

A nurse notices that one of the patients in her ward is suffering from diarrhœa. You will remark I do not say that a patient complains of diarrhœa to the nurse, because the patients most liable to develop those diseases are those who have not enough sense to draw the attention of the nurse or medical officer to their condition. The case is put to bed in that part of the ward which offers the best facilities for temporary isolation, and the temperature is taken. The matter is reported to the medical officer, and a specimen of the motions is kept for his inspection. If, as the result of his examination of the patient and his inspection of the stool, the medical officer has the slightest suspicion that the case may be one of dysentery or its allied diseases, a specimen of the fæces is sent to the laboratory. I would mention here that a careful watch has to be kept that the over-zealous nurse does not add some disinfectant to the stool before the specimen is taken. Each ward is supplied with special tins in which specimens are sent to the laboratory, and special printed forms on which the particulars of the case are entered by the medical officer.

Those atypical cases of enteric in which there is partial or complete constipation are not easy to recognize in the early stages. Some

* Details of epidemics can be found on reference to the nine post-war annual reports from the laboratory and to the special reports published in the annual reports of the Board of Control.

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times it happens that a positive Widal is obtained. In other cases a blood culture is made. If the laboratory reports a positive result after an examination of the fæces or of a blood-culture, the patient is at once transferred to Ward 21, or to Ward 36, and the ward from which the patient has been transferred is put into strict isolation.

Every patient in the infected ward is put to bed and a morning and evening temperature chart is kept. This is important. If the temperature in any case rises above normal it is taken four-hourly.

The w.c's. are locked and no patient is allowed to make use of them. Each patient is supplied with a chamber utensil. The dirty bed- and body-linen, etc., is placed in zinc containers and taken direct from the ward to the foul-linen department of the laundry. The meals, food supplies, etc., are brought from the kitchen, stores, etc., by messengers and left outside the doors of the infected ward. Three specimens from the fæces of every patient in the ward and from every member of the nursing staff are obtained and sent to the laboratory.

Naked-eye examinations cannot be relied upon for deciding whether the stools contain pathogenic organisms or not. If the result of the laboratory examination of all three specimens is negative, one regards the patient or nurse as not infective. In addition to the examination of the fæces, a blood Widal of each patient and nurse is made. It is generally possible to discover carriers by these combined methods, and such are isolated immediately. The discovery of the bacillus in the blood or stools is, however, the real evidence of infectivity. The dangerous sources of infection are those who excrete bacilli and give negative Widals. In the case of any patient who presents recent symptoms suggestive of enteric, a blood-culture is made in the stage before a Widal could be of use.

After infected cases have been removed from the ward, and before taking the ward out of isolation the remaining patients are inoculated with a vaccine containing the organisms isolated from the fæces during the outbreak. After this inoculation has been carried out the ban of isolation is removed from the ward.

We do not claim that we have rendered it impossible for a case of dysentery to occur in the hospital, but we are satisfied with the results. Our measures enable us to detect the disease at once and to take the necessary steps to prevent the infection from spreading. In former days many cases were missed, and not uncommonly diagnosed for the first time in the *post-mortem* room.

Since the year 1910 we have had an average of 176 *post-mortems*

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per year. In every case the bowels are opened and carefully examined macroscopically for signs of dysenteric or enteric lesions. Two or three scrapings are also taken from different parts of the bowel and plated out. The fact that I cannot recollect one case of a patient's dying in a non-isolation ward and after death giving a positive result would seem to indicate the effectiveness of our prophylactic measures.

You will notice that the foundation on which our whole scheme rests is the bacteriological examination. A close association must be maintained between the clinical and bacteriological aspects of the disease. No satisfactory result can be hoped for if the clinician and the bacteriologist each work in a water-tight compartment.

To tackle the problem successfully the clinician must co-operate with the bacteriologist, informing him of all the details and particulars of the case, and the bacteriologist must in return do the same from his point of view.

Can anything be done to render the carrier innocuous? We have not found it practicable in the case of dysentery, and consequently he has to submit to permanent isolation.

With regard to the typhoid carrier the considerations are different. The gall-bladder is found to be the main source from which the infection comes. In such cases gall-stones are also usually present. The typhoid bacilli have been obtained not only from the bile and the wall of the gall-bladder, but also from the centre of the gall-stones. After removal of the gall-bladder the most careful and repeated examinations of the fæces failed to discover the presence of the typhoid bacillus. Other workers, however, have found bacilli to be excreted for long periods afterwards.

It is conceivable that a time might come when more isolation wards could not be provided, and under these conditions it might be necessary to transfer patients from an isolation to a non-isolation ward. If this has to be done, only those patients who are clean in their habits and are sensible enough to be able to look after themselves and to complain if they feel ill should be chosen. The blood of such patients should be examined on three separate occasions by the Widal method for dysentery and typhoid, and a definitely negative result obtained at each examination. The fæces also should be examined on three separate occasions with negative results. Only after these precautions could sanction be given for freeing the patient from isolation.

In conclusion there are two points I would like to emphasize. The first is that an institution free from dysentery is peculiarly susceptible to infection, particularly by a foreign strain from other institutions. The second point is that our investigations tend to

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make us believe that periodic immunization of institutions is continually taking place where preventative measures are not in force. Holding these views, it is our fixed practice now to regard all batches of transfers from other institutions with the greatest suspicion, even though the institutions from which they come have a clean bill of health, and each individual in the batch is certified to be free from dysentery and enteric. I would emphasize the great importance of detaining such batches of patients in a special receiving ward, until it is possible to complete the examination of each individual for infectivity.

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THE BACTERIOLOGICAL EXAMINATION OF FÆCES FOR THE ISOLATION AND IDENTIFICATION OF THE DYSENTERY AND TYPHOID GROUP OF ORGANISMS.*

By A. L. HOWDEN,
Laboratory Assistant, Wakefield Mental Hospital.

FÆCES sent to the Laboratory for search for dysentery or typhoid organisms are plated direct on to three previously dried "Rebipel" agar plates by means of a stout platinum wire bent at right angles. The inoculated plates are incubated at 37·5° C. for 18–24 hours and are then examined for suspicious colonies.

On this medium *B. coli* produces large red colonies, whilst those of the dysentery and typhoid groups are small and clear. It is the latter type of colony that must always be regarded with suspicion.

Several of the clear, discrete colonies are now picked off the plates with a platinum spud, and tubes of lactose peptone water are inoculated with these and incubated for 24 hours. At the end of this time the tubes are examined and any which show acid and gas are discarded. If the tubes are turbid only, with no acid or gas production, ordinary broth tubes are inoculated, and after 4–6 hours' incubation a hanging drop is made and examined for motility, after which the broth cultures are "batched" into sugar media tubes, fifteen different media being employed. An agar slope and a brom-cresol milk tube are also inoculated. The inoculated sugar media, agar slope and milk tube are then incubated for 24 hours, after which the reactions obtained are noted.

The motility or non-motility of the cultures having previously been observed, the sugar reactions provide an indication of the identity of the organism. In the case of the Flexner group it is,

* A paper accompanying a demonstration at the Annual Meeting held at Wakefield, July 12, 1928.

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however, impossible to state definitely what type of organism is being dealt with, as the pairs "V" and "X," and "W" and "Y" give the same reactions, and type "Z" gives the same reactions as *B. typhosus*, but is non-motile.

If the sugar reactions indicate one of the Flexner group of bacilli, agglutination tests with the five standard types of agglutinating sera, namely V, W, X, Y and Z, must be carried out, and for this purpose the growth on the agar slope is washed off with a few c.c. of sterile 0·85% saline. This is transferred to a test-tube and further diluted with 0·85% saline to an opacity which corresponds to a suspension containing approximately 3000 million organisms per c.c.

Five agglutination racks are now set up with the number of tubes required for a control, and dilutions from 1/50 to the full titre of the sera about to be used.

With a graduated pipette the required amounts of bacterial suspension are transferred to the tubes, the pipette is washed out with boiling water and the requisite quantity of serum is added and mixed.

After the dilutions have been made the tubes are placed in the agglutination bath or oven and kept at a temperature of 55° C. for 4½ hours. At the end of that time they are allowed to stand on the bench for 15 minutes before reading. No reaction should have taken place in the control tube. A certain amount will be observed in all the low dilutions, but it will be complete in those tubes which contain the correct type of serum for the organism which is tested.

The agglutination tests provide the accurate bacteriological identification of the organism and are an essential part of the examination, particularly so where prophylactic vaccination is contemplated.

The following table illustrates the sugar reactions referred to previously:

Organism.	Glucose.	Mannite.	Galactose.	Levulose.	Maltose.	Dextrine.	Sorbite.	Glycerine.	Inulin.	Dulcite.	Rhamnose.	Lactose.	Adonite.	Saccharose.	Salicine.	Motility.	Indole.	Lit. milk.
B. Flexner "V" .	A	A	A	A	A	A	—	—	—	—	—	—	—	—	—	—	+	A
B. Flexner "X" .	A	A	A	A	A	A	—	—	—	—	—	—	—	—	—	—	+	A
B. Flexner "W" .	A	A	A	A	—	—	—	—	—	—	—	—	—	—	—	—	+	A
B. Flexner "Y" .	A	A	A	A	—	—	—	—	—	—	—	—	—	—	—	—	+	A
B. Flexner "Z" .	A	A	A	A	A	A	A	—	—	—	—	—	—	—	—	—	+	A
B. typhosus . .	A	A	A	A	A	A	A	—	—	—	—	—	—	—	—	+	—	A

A = Acid.

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Blood Culture for the Isolation of Organisms of the Enteric Group.

For this examination a flask containing 100 c.c. of bile-salt trypsin broth is inoculated with 10 c.c. of the suspected blood obtained by venepuncture and is then incubated for 3–4 hours.

Five broth tubes, each containing 10 c.c. of broth, are now inoculated with 1 c.c. quantities from the blood flask. The tubes and flask are then incubated for 18–24 hours.

If the broth tubes are turbid, hanging-drop preparations are made from the flask and tubes. Should motile bacilli be observed, agglutination tests with typhoid, paratyphoid and Gaertner sera are immediately carried out.

For this purpose the culture in the broth tubes is transferred by means of a sterile pipette to the agglutination tubes and the required dilutions are made with the sera. The tubes are now placed in the agglutination oven at 55° C. for 2 hours and the reading taken.

A positive result enables the laboratory report to be sent to the medical officer in charge of the case within 24 hours of the receipt of the specimen—obviously a point of considerable importance, and especially so when cases occur in large wards.

Confirmatory tests are carried out by the usual method of plating drops of the primary blood-culture on to "Rebipel" agar plates. After incubation, single colonies are selected and sugar media inoculated.

Technique of the Widal Tests for Enteric and Dysentery.

1. *Preparation of the bacillary suspensions.*—For the preparation of the bacillary suspensions used for Widal tests, a broth tube is inoculated with a small loopful of an agar culture and incubated for 24 hours.

Several tryp-agar plates are then inoculated, one drop of the broth culture to each plate. The culture is spread over the plates by means of a sterile glass rod. They are then incubated for 24 hours.

The resulting growth is washed off the plates with 0·85% saline containing 0·1% formalin, and placed in a sterile bottle containing a few sterile beads. The bottle is now placed in an electric shaking machine for half an hour, after which it is put into the ice-chest for 7–8 days. During this period the bottle is shaken for a few minutes daily. On the seventh or eighth day a few drops of the suspension are extracted with a sterile pipette and several agar slopes inoculated. These are incubated for 24 hours. If on examination

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the inoculated slopes are found to be sterile, the suspension is ready for standardization; if, on the other hand, growth has taken place, the suspension is left in the ice-chest. Samples are taken daily, and the test for sterility is repeated until no growth appears.

2. *Standardization.*—Standardization by the opacity method devised by Brown and Kirwan is employed, and consists in comparing the opacity of a sample of the suspension with that of a standard tube. A sample of the suspension is taken, and if the opacity of this is greater than the opacity of tube No. 10, the suspension is diluted with a known number of volumes of 0·85% saline until the opacity of the diluted suspension comes into the range of the standard opacity tubes. Some of the suspension, diluted or not, as the case may be, is then put into one of the empty tubes, and the tube is laid down in a good light upon a clearly printed book.

The standard tubes are taken one by one and laid by the side of the tube containing the suspension, the tubes being rolled from side to side in close contact with the print. The opacity of the suspension is thus estimated. The dilution necessary to obtain a suspension containing approximately 3,000 million organisms per c.c. is now made, and the agglutination test is carried out with a specific serum of known titre.

3. *The Widal pipette.*—To make this very useful pipette a piece of sterile glass tubing is heated in the Bunsen flame, drawn out and allowed to cool. The centre of the finely drawn tubing is now cut with a file and one of the pieces inserted as far as it will go into the hole, No. 60, on the Morse drill and wire gauge. At this place a scratch is made on the fine tubing with a glass knife and the tube is withdrawn from the gauge and broken at the scratch, after which a rubber teat is fitted to the large end.

Two small Widal test-tubes are taken and numbered 1 and 2. Into tube 1 is placed 1 c.c. of 0·85% saline, and into tube 2, ·5 c.c. of saline. The pipette is now inserted into tube 1 and the 1 c.c. of saline is completely withdrawn. The pipette being held in the vertical position, gentle pressure is applied to the teat in order to expel the 1 c.c. of saline drop by drop, count being kept of the drops. The number obtained should be 50. The process is then repeated, this time tube No. 2 containing the ·5 c.c. of saline being used. The number of drops obtained this time should be 25. The pipette being tested, the process is repeated, the meniscus positions of the 1 c.c. and ·5 c.c. being marked with a grease pencil. The saline is now expelled, a deep scratch is made with a triangular file at the grease pencil markings and the scratch is afterwards filled in with grease pencil, the excess being rubbed off.

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A graduated pipette delivering 50 drops to the c.c. when held vertically is the result.

4. *The method of obtaining the patient's blood for Widal tests.*—The Widal outfit consists of a small tin case, inside which is a sterilized tube containing a triangular needle and two double-ended capsules. A piece of thin rubber tubing and a spirit blow-pipe are necessary adjuncts.

To obtain the blood, the rubber tubing is wrapped round the thumb, starting at the lower end and proceeding to a point just above the knuckle. A quick sharp prick with the needle between the tubing and thumb-nail is then made, and one end of the glass capsule is placed in the blood, care being taken to prevent the blood from running to the opposite end of the capsule. If the thumb is squeezed, sufficient blood is readily collected to half fill the capsule. The clean end of the capsule is now sealed in the spirit-lamp flame and allowed to cool, after which the blood is shaken down to the sealed end. The soiled end of the tube is wiped with a piece of lint and sealed. The capsule and needle are returned to the test-tube. This is labelled with the patient's name and the date of admission, and is replaced in the tin ready for despatch to the laboratory.

5. *The mode of performance of the test.*—The blood tube, on arrival at the laboratory, is numbered for later identification and placed in the incubator for 20 to 30 minutes, after which it is centrifuged in order to throw down the clot. Meanwhile a Widal test-tube rack is supplied with the required number of tubes for control tests and dilutions of 1/50 and 1/100. Four tubes are required for each specimen, apart from the control tubes.

The tubes to be used for the 1/50 dilutions with *B. typhosus* suspension are marked with a blue grease pencil and those for the 1/50 dilutions with Flexner suspensions with a yellow one.

Now with the graduated pipette a little over 1 c.c. of the typhoid suspension is placed in the control tube. Continue the process, placing 1 c.c. in the first tube marked with the number of the specimen in blue pencil, and ·5 c.c. into the next unmarked tube. After washing out the pipette with boiling water and drying it, the process is repeated with the *B. Flexner* suspension and the yellow pencilled tubes. The pipette is again washed out with boiling water. The blood tube is now taken, and with a glass-cutting knife the tip of the tube is removed above the level of the clear serum. In order to make the 1/50 dilutions a quantity of serum is extracted with the pipette, and this being held vertically one drop of serum is allowed to fall into each of the numbered tubes, the remainder of the serum being returned to the tube. The pipette is again washed out. The drop of serum is thoroughly

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mixed with the typhoid suspension. Half a c.c. is then withdrawn and mixed with the ·5 c.c. of typhoid suspension in the second tube. This gives the 1/100 dilution. The pipette is again washed and the process is repeated with the tubes containing the serum and Flexner suspension.

Finally the tubes are placed in the agglutination bath at 55° C. for 2 hours in the case of the typhoid and 4½ hours for the Flexner samples. The tubes are afterwards cooled for 15 minutes at room temperature before being read. No change should have taken place in the control tubes. A positive reaction with either the typhoid or Flexner suspensions is indicated by a flocculent deposit and the consequent partial or complete clearance of the supernatant fluid.

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A REVIEW OF BLOOD-PRESSURES IN THE INSANE.*

By K. C. L. Paddle, *M.C.*, M.R.C.S., L.R.C.P.Lond., D.P.M.Leeds,
Senior Assistant Medical Officer, West Riding Mental Hospital, Wakefield.

In this investigation of blood-pressures in the various forms of insanity, 920 male cases were examined. In order to reduce the numerous variable factors to a minimum, the following procedure was adopted.

(1) All blood-pressures were taken by myself. The first 250 readings were rejected and re-taken.

(2) An aneroid sphygmomanometer of reliable make was used and tested at frequent intervals against a mercury manometer.

(3) The patient's right arm was always used and the auscultatory method was followed throughout. The patient's arm was bared and wrapped round carefully with the air-bag and bandage. A diaphragm type of stethoscope was placed over the brachial artery at the bend of the elbow. The bag was pumped up until no sounds were heard. The pressure was then slowly diminished by releasing the screw, and at the first sound of the pulse-wave the reading of the manometer was noted and taken as the systolic blood-pressure. This would be repeated several times until the same reading was obtained. The diastolic pressure was taken as the point of change from audible beats to either no sounds at all or marked diminution of sounds.

(4) Only male patients were examined.

(5) The blood-pressures were taken at the same time every morning.

(6) Great care was taken to avoid raising the blood-pressure by excitement or apprehension before examination. While the first patient was undergoing his test, the next four or five on the list would be present and watching the procedure before taking their

* A paper (with lantern demonstration) read at the Annual Meeting held at Wakefield, July 13, 1928.

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turns. If, in spite of this, the patient still remained apprehensive, he would only be dealt with later.

Since the blood-pressure of an individual varies according to his age, it was found necessary for purposes of comparison to divide up the 920 cases into seven groups, and to take average blood-pressures for each group. The first group included cases below the age of 20, the second, those between the ages of 20 and 29, and so on, the last group including cases of 70 and over. There were 23 cases in the first group, 108 in the second, 181 in the third, 219 in the fourth, 193 in the fifth, 136 in the sixth, and 60 in the last. The average age of each group was as follows: 16, 26, 35, 44, 54, 65 and 74 years. The average systolic blood-pressures were respectively 130, 136, 140, 146, 154, 165, 166 mm. of mercury.

The average diastolic pressures also show a similar gradual rise between 77 and 95 mm. of Hg., but though they have been taken in every individual case for the purpose of compiling this paper, they compare unfavourably as regards reliability and accuracy with the systolic blood-pressures. The latter are accurate in all cases to the nearest 2 or 3 mm. of Hg. The diastolic pressure, on the other hand, in the large majority of cases is difficult of ascertainment with any degree of accuracy within some 15 or 20 mm. of Hg.

I propose therefore, to consider systolic blood-pressures only, though it may be taken for granted that the true diastolic pressures follow similar changes lower down the scale, when averages of large numbers of cases are dealt with. It will be observed that the average systolic pressures of the various groups gradually increase as the age increases. At the average age of 16 it is 130; at 26 it is 136; at 35 it is 140; and at 74, 166. We might call these the normal average pressures for the insane, though they do not quite conform to the conventional " 100 plus the age " of normal people.

If we compare the blood-pressures of cases in the various forms of insanity similarly grouped and averaged we find the following results: In cases of general paralysis, imbecility without epilepsy, the various forms of dementia and delusional insanity, there is no marked change of any importance. The average pressures of these types follow the general rule; they vary only according to age, and compare closely with the average insane blood-pressures. There is no constant hyper- or hypopiesis through the various ages.

In view of the commonly accepted belief that cases of mania exhibit low blood-pressure, and those of melancholia high blood-pressure (Craig, and also Stoddart), it is interesting to compare the figures of these two types of insanity. At 25 years in mania it is

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Average Blood-pressures in Millimetres of Mercury of 920 Male Insane.

Group:	1.				2.				3.				4.				5.				6.				7.			
Ages:	Under 20.				20 to 29.				30 to 39.				40 to 49.				50 to 59.				60 to 69.				70 and over.			
—	Number of cases.	Average age.	B.P.		Number of cases.	Average age.	B.P.		Number of cases.	Average age.	B.P.		Number of cases.	Average age.	B.P.		Number of cases.	Average age.	B.P.		Number of cases.	Average age.	B.P.		Number of cases.	Average age.	B.P.	
			S.	D.			S.	D.			S.	D.			S.	D.			S.	D.			S.	D.			S.	D.
All forms of insanity .	23	16	130	77	108	26	136	86	181	35	140	89	219	44	146	94	193	54	154	95	136	65	165	95	60	74	166	91
Epileptics	11	15	126	77	24	25	128	82	30	35	133	87	28	44	141	94	9	55	145	91	3	64	149	97	5	72	182	93
Mania	...	...	...	...	5	25	126	82	10	35	138	90	23	44	147	92	18	55	152	96	16	64	172	97	8	75	164	86
Melancholia	...	...	...	...	6	25	154	91	17	35	139	89	23	44	148	93	21	54	158	97	17	63	152	90	6	73	173	101
G.P.I.	1	18	140	85	3	24	123	93	14	37	152	93	28	45	151	97	22	54	156	94	1	63	188	22	...	...	...	...
Imbecility without epilepsy	10	17	136	76	31	25	135	84	20	35	146	95	15	44	142	97	13	54	149	90	4	64	142	92	...	...	...	...
Dementia, primary . .	...	...	...	...	30	27	131	81	52	34	136	85	7	42	137	89	1	50	154	90	...	...	...	...	...	.	...	...
Dementia, senile . .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13	66	165	92	10	76	169	85
Dementia, other types .	...	...	...	...	...	...	...	...	13	37	144	93	55	45	148	95	78	54	150	94	61	65	169	98	22	75	159	86
Delusional insanity, unsystematized	...	...	...	...	1	29	124	82	15	34	144	91	25	45	149	94	17	54	160	95	10	63	160	90	6	73	163	94
Delusional insanity, systematized	...	...	...	...	...	...	...	...	...	...	...	...	5	43	144	92	4	54	184	104	3	65	160	95	1	76	204	112

B.P. = Blood-pressure. S. = Systolic blood-pressure. D. = Diastolic blood-pressure.

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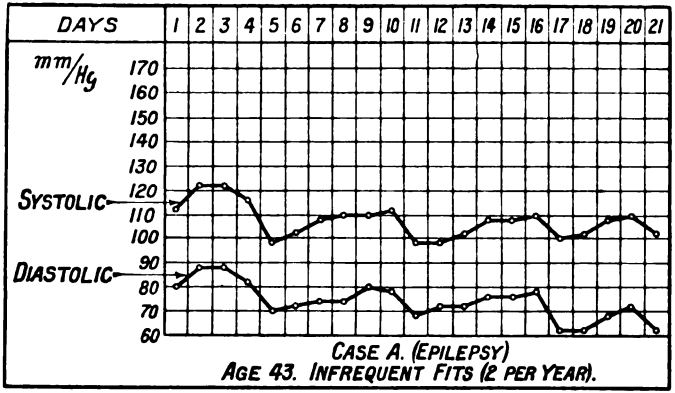
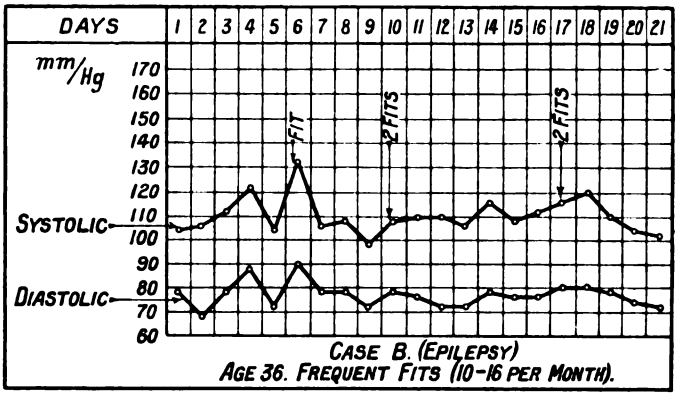
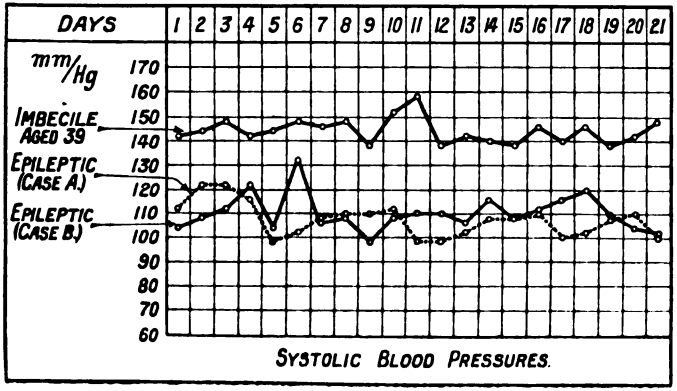


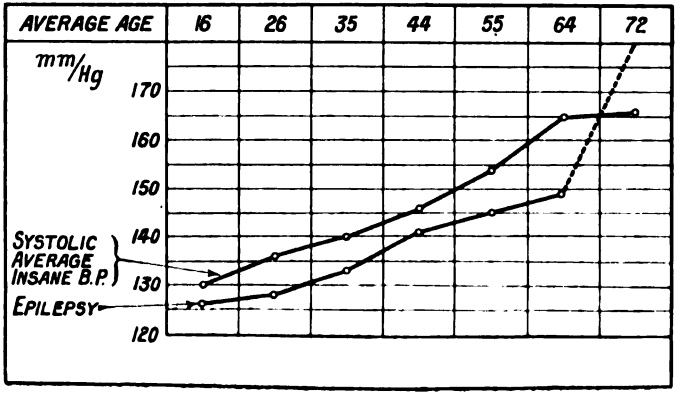
CASE A. (EPILEPSY)
AGE 43. INFREQUENT FITS (2 PER YEAR).



CASE B. (EPILEPSY)
AGE 36. FREQUENT FITS (10-16 PER MONTH).



SYSTOLIC BLOOD PRESSURES.



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126; in melancholia, 154—28 mm. higher. At 35 years in mania it is 138, and in melancholia, 139—practically equal. At 64 in mania it is 172, and in melancholia 152—20 mm. of Hg. lower. Of the 80 cases of mania examined, 49% have systolic blood-pressures above the average for the insane, and 51% below. In melancholia, of 90 cases examined, 49% have systolic blood-pressures above and 51% below the average. In view of these figures it would seem that there is no justification for saying that the blood-pressure in mania is lower than in melancholia.

In epilepsy, however, there appears to be a constant lowering of blood-pressure right through the various ages, except in the last group, where there happened to be only 5 cases, 3 of which suffered from chronic Bright's disease, and had systolic blood-pressures of 180, 208 and 206 mm. respectively. The systolic blood-pressures of all the other epileptic groups are uniformly lower than the corresponding average for the insane. Of the 110 epileptics examined, 69 had a blood-pressure below normal and 41 above normal. Of those above normal, as many as 12 had definite evidence of chronic Bright's disease and arterio-sclerosis, which by itself would account for an increased blood-pressure, so that we can say that some 70% of epileptics suffered from hypopiesis. We can therefore only conclude that in the large majority of insane epileptics a lowered blood-pressure is the rule, unless there is some definite bodily affection such as chronic Bright's disease to account for a raised blood-pressure. This is interesting, in view of the observations set forth recently by Dr. James Collier in his Lumleian Lectures.

He thinks that an important feature in epilepsy is a lowered blood-pressure *before* the onset of the fits, the condition being thus allied to syncope, migraine and vaso-vagal attacks. Bossard has put forward the theory that the cause of an epileptic attack is anaphylactic shock due to some disordered product of metabolism, and that the attack is always preceded by a fall of blood-pressure. The present investigation would, however, tend to show that a lowered blood-pressure is normal for an epileptic, and is probably an inherited characteristic.

This hypopiesis in epileptics bears no relationship to the number or frequency of the fits they are having, nor does it seem to matter what type of epilepsy the patient is suffering from. Many patients having numerous fits daily have moderate blood-pressures, whilst others, having only one or two a year, have quite low blood-pressures and *vice versâ*. As far as my observations go, the administration of therapeutic doses of bromide and chloral to epileptics even over considerable periods does not seem to affect their blood-pressures in any way.

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In conclusion it may be stated that (1) the average blood-pressure in the insane varies according to age—the older the patient the higher the blood-pressure; (2) there is little or no difference between the blood-pressures in mania and melancholia; (3) the large majority of insane epileptics exhibit a constant lowered blood-pressure, which is independent of the number or frequency of the fits or of the form of epilepsy; (4) epileptics, in common with normal persons, may have their blood-pressures raised by such conditions as arterio-sclerosis and chronic Bright's disease. Non-epileptic defectives, as the table shows, conform in general to the average of all types, but have comparatively low pressures after the age of 50.

It is clear, therefore, that the mental symptoms in the insane bear no relationship whatever to the blood-pressure, the cases with epilepsy being excluded. In the latter it is probable that the lowered pressure is related to the epilepsy and not to the mental symptoms presented.

I am greatly indebted to Prof. J. Shaw Bolton for his most helpful advice and criticism, and for his kind permission to publish this paper.

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THE MONGOL: A NEW EXPLANATION.

(Second communication.)

By R. M. Clark, M.B.Edin.,
Medical Superintendent, Whittingham Mental Hospital.

Further consideration of the theory that mongolism is caused by a fœtal hyperthyroidism ceasing at birth shows that much can be added to support this view.

Such a theory is in accord with the negative findings in the mongol infant, of bacteriologists, biochemists and serologists, and would explain why the mongol idiot is not benefited by any therapeutic agent. In a previous communication, in endeavouring to show that many of the changes which occur in and around the eyes of the mongol may be explained by the simple mechanics of elastic eyeball protrusion in the fœtus, I applied an explanation which has been given before by various authorities to account for many of the signs and symptoms which occur in the same region in Graves' disease, most of which are associated with the names of the authorities who described them. It may be asked what other explanation can be given to account for the following conditions so frequently found in mongol idiots—strabismus, rolling movements of the eyes, liability to polar cataracts, small eyes, ill-fitting eyelids, thin eyelids, ptosis, epicanthus, thinness of bones lining the orbital cavities, high arched eyebrows, wrinkled forehead, and, if another explanation be forthcoming, can it also explain why so many of these tend to become less pronounced as age advances? It is to be expected that, in the mongol idiot, as in the subject of Graves' disease, all the eye signs will not always be present; some will be more marked than others, and just as in the exophthalmic adult, the eyes may remain prominent during a remission and give a staring effect, so in the mongol infant a similar condition may result.

Sir A. Keith has shown that the thyroid may by its influence on growth cause retraction of the nasion and so bring about the characteristic concave profile of the Mongolian; this retraction may, by restricting the blood-supply in this region, assist in accounting for the absence or ill-development of the nasal bones; but as Sir Arthur's explanation of the defective growth at the base of the

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skull only applies to bones developed in cartilage, it will not, of itself, explain the defective nasal bones, for they develop in membrane.

Two other conditions—"speckled irides" and "rosy cheeks"—occur with such significant frequency in the Mongol idiot that any explanation of mongolism should account for these conditions; two corresponding conditions occur in Graves' disease, and with somewhat equal frequency, namely, speckling of the eyelids with pigment, and flushing and paling of the cheeks. It is suggested that these two mongol signs may be accounted for by conditions existing in the fœtus such as give rise to the corresponding signs in adult hyperthyroidism. It is known that in a developing vessel the size, both diameter of cavity and thickness of wall, is determined by the amount of blood which is pumped through it, and by the pressure at which it is pumped (19). Hyperthyroidism, too, may explain the abortions and still-births which occur with undue frequency in families containing mongols, for it is known that thyroid fed to pregnant bitches causes death of the fœtus and abortion.

Numerous ætiological factors have been advanced to account for mongolism, *e.g.*, syphilis, alcohol, tuberculosis, procreative insufficiency of either parent, exhaustion, etc. While these may have a causal relationship, they do not help much towards an understanding of the disease, and something more is required to explain the peculiar nature of the growth-changes which have given the name to the condition; further, most of these "causes" are as frequently absent as present, and are too common in the family histories of normal children to be of any causal significance; in fact, each or all of them might be the cause of the hyperthyroidism which is here postulated. It is in favour of an endocrine theory that mongolism is more common at the beginning or end of the child-bearing period, for endocrine imbalance is more likely to occur at ages when endocrine readjustment is taking place. Again, hyperthyroidism may be the cause of a defective ovum, or a defective ovum may be over-susceptible to thyroid.

The only theories which offer an explanation of mongolism, other than an endocrine theory, are those of Jansen and Van der Scheer (7 and 8) and of Crookshank (9). The hyperthyroid explanation of mongolism will be supported if it can be shown to embrace both these theories. Fœtal hyperthyroidism may be found to explain not only mongolism, but also achondroplasia, dysostosis cleido-cranialis, and anencephaly, for these diseases have a number of characteristic features in common: They are (1) congenital, and are associated with (2) dwarfism, (3) absence or ill-development of the nasal bones, (4) arrest of growth at the base of the skull, (5) defective

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differentiation of cartilage into bone, (6) undue frequency of congenital deficiencies, *e. g.*, congenital heart affections, cryptorchidism, hernia, hare-lip, club-foot, etc. Van der Scheer considers that ischæmia and physical compression caused by a defective amnion at the 6th and 7th week of fœtal life can account for the characteristic features of mongolism; Jansen is of the same opinion, but goes further and explains achondroplasia by these same conditions occurring at the 5th and 6th week of embryonic life, dysostosis cleido-cranialis by their occurrence at the 8th week, and anencephaly by compression and ischæmia occurring at the 3rd week. Both these authorities consider that increased amniotic pressure from a defective development and expansion of the amnion can cause a general ischæmia which accounts for general dwarfism—the ischæmia especially affects fast-growing cell-areas—in addition they postulate an excessive infolding of the fœtus occurring in its long (embryonic) axis, compressing the glabellar and nasal regions of the face on to the chest in such a way as to produce the characteristic skull, face and spine changes of achondroplasia and mongolism. In dysostosis cleido-cranialis the infolding is assumed to be in a transverse direction as well as in the embryonic axis, pressing the shoulders upwards, forwards and inwards, and thus compressing and narrowing the base of the skull and lower part of the face and preventing ossification of the clavicles. This theory involves the view that ischæmia and physical compression cause, by chance, remarkable resemblances between the mongol idiot and the racial Mongolian, or that the features of the racial Mongolian have been brought about in a similar manner by a defective amnion, and this is highly improbable. Jansen's view is that ischæmia of a few hours' duration can prevent the differentiation of cartilage into bone and so cause the absence or ill-development of the clavicles in dysostosis cleido-cranialis. This, however, is not in accordance with the fact that if a bone be removed from a child and periosteum grafted in its place a new bone results. Van der Scheer accounts for the dorso-lumbar kyphosis in the mongol idiot by an excessive infolding of the fœtus on its embryonic axis, and he asks, how else can this condition be accounted for? The answer is—by defective differentiation: kyphosis in acromegaly is not caused by excessive infolding. The flexed attitude of the fœtus *in utero* would appear to have little effect on the curves of the spinal column of the infant, for normal infants may be born with umbilical cords only an inch long; such cords must have been even shorter in early fœtal life, and must have prevented a flexed attitude of the fœtus *in utero*. Jansen accounts for the Mongolian appearance of the eyelids by supposing that there is dwarfism or absence of the nasal bones and that the

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frontal bones compensate for the defect by sending processes in a medial and downward direction, the covering tissues following the direction of the underlying parts. To be effective these processes must extend below the inner canthus, and yet in many cases these processes cannot be demonstrated; moreover, if Jansen's explanation were correct, the condition would become worse as age advances, whereas on the contrary improvement takes place. Sir Arthur Keith (10) has said that it is impossible to give any satisfactory explanation of achondroplastic skulls by postulating abnormal development of the amnion or abnormal amniotic pressure. On the other hand he has recorded much that supports the theory here enunciated, for he holds that a reduction or alteration of the thyroid has been a factor in determining some of the racial characters of the Mongolian race which the idiot under discussion so much resembles. He has further recorded (2) that "two forms of dwarfism, achondroplasia and mongolism, must be regarded as due to a defect in the growth-regulating mechanism of the thyroid," and his description of how the cranial and facial features in achondroplasia and mongolism come about fits in well with a fœtal hyperthyroidic explanation, as the following extracts from his writings show. "Achondroplasia (10) is essentially a disease of ossification . . . stunting of the growth of the base of the skull occurs; the basi-occipital and basi-sphenoid are shortened, causing the contraction of the naso-pharyngeal space, the presphenoid ossification is also arrested, and the distance between the pituitary fossa and the foramen cæcum is reduced so that the nasion is drawn inwards and the forehead bulges owing to the brain's seeking compensatory space in this region; the essential feature is that the cartilage cells do not undergo the rapid division, columnar arrangement, vacuolation and hypertrophy which normally precedes ossification." "This passive resistance of the cartilage cells is probably due to absence of the secretion of one of the ductless glands." The same author, in his presidential address (11) on the differentiation of mankind into racial types, has recorded that racial characters may have been brought about by differences in the glandular balance, *e. g.*, "there is evidence of preponderance of pituitary in the gland-balance of the gorilla, Neanderthal man, and the European, as shown by the pronounced nasalization, eyebrow ridges, and extension of areas for muscular attachments; on the other hand, and contrasting with these features, there is evidence of preponderance of thyroid in the gland-balance of the orang and the racial Mongolian." "The influence of the thyroid on the development of the other systems of the body, particularly on the growth of the skull and skeleton, is equally profound . . . the arrest

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of growth falls mainly on the basal part of the skull with the result that the root of the nose appears flattened and drawn backwards between the eyes . . . the face appears flattened and the forehead bulging." "The features just enumerated give the Mongolian face its characteristic aspect." In addition to the experimental work done on the action of thyroid on frog tadpoles, further light has been thrown on the nature of the influence of thyroid on development by the recent observations of Champy, Ebeling, Carrel and Torrey on the effect of thyroid on cell-division and differentiation. Torrey (12) has studied the effect of different concentrations of thyroxin on the fertilized eggs and embryos of *Echinometra* and *Phallusia*, and has shown that neither cleavage nor differentiation is accelerated, on the contrary both are retarded. He concluded, "Thyroxin depresses cell-division in such widely different organisms as *Paramecium*, *Echinometra* and *Phallusia*; it may well be that it is a depressant of cell-division throughout the animal kingdom . . . cell-cleavage and embryonic development are retarded." Differing then from Jansen and Van der Scheer, I think that the arrest of growth and the malformations in the skull and face in the mongol can be better explained by the depressing effect of hyperthyroidism on cell-cleavage, cell-differentiation and embryonic development. This action would also explain how those signs in the mongol which have led to its being called an unfinished child are brought about. In one lot of eggs, following fertilization, Torrey found many embryos wholly unable to free themselves from their membranes, their form became irregular and they failed to become normal larvæ. This abnormality only occurred twice in his experience, and on both occasions Torrey had reason to suspect a departure from the normal standard of thyroxin. This action might account for a defective amnion as is postulated by the Jansen—Van der Scheer theory.

Recent work on the toxæmias of pregnancy suggests the possibility of changes being brought about in the thyroid hormone, either in the placenta or uterus. In this connection it is unfortunate that while the incidence of mongol idiots in the case of twins is often carefully recorded (13), yet mention is seldom made of whether a common placenta or separate placentæ are present. Torrey further found that the retardation of cleavage and differentiation caused by thyroxin varied in degree with the concentration of thyroxin, and this fact may be correlated with the known facts that (1) a gland-balance with preponderance of pituitary can account for the racial characters of the European, the Neanderthal race and the gorilla, and a higher concentration of pituitary, as in acromegaly, converts the racial characters of the European into those of Neanderthal man;

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(2) a gland-balance with preponderance of thyroid can account for the racial characters of the Mongolian and orang. It is suggested, then, that a higher concentration of thyroid, as in fœtal hyperthyroidism, may substitute for the racial characters of a European those of the Mongolian race, as occurs in the mongol idiot. In making the above analogy it is noted that acromegaly and mongolism are pathological conditions, while the racial characters of the European and Mongolian have been brought about by their respective gland-balances under favourable conditions of natural, environmental, and sexual selection. Crookshank (9) was the first to show the correlation between mongolian imbecility and thyroid gland-balance, and he also pointed out that the homologies between the mongol and the racial Mongolian might be explained by there being a similar gland-balance in each case, and with this view Sir Arthur Keith (10 and 11) seems to be in agreement. An explanation of mongolism by fœtal hyperthyroidism is in agreement with these views.

Since thyroid may bring about the skull and face features common to the mongol and Mongolian, it can also account for other homologies pointed out by Crookshank, *e.g.*, if stunting of the base of the skull occurs, the space beneath the tentorium cerebelli is restricted, and this by compression leads to relative inferiority of the cerebellum, pons and medulla; the occipital bone above the tentorium is also stunted and permits relatively less expansion of the brain than does the vault, the bones of which are developed in membrane. Development of the occipital lobes is therefore interfered with—they are small and allow the underlying cerebellum to be seen between them. Again, inferiority of the cerebellum, pons and medulla and hyperthyroidism may be correlated with muscular hypotonus and lax joint-ligaments and so account for the Buddha posture as compared with the non-Mongolian or negro posture. Other homologies pointed out by Crookshank could be explained in a similar way.

Crookshank eventually definitely rejected a gland-balance theory in favour of his descent theory and atavistic explanation of mongolism on the ground that the latter is necessary to explain all the facts, for he asks: "Now if mongolism in Western Europe is explicable on the grounds of (i) a special gland-balance similar to that of the racial Mongols, (ii) determining all the anatomical, physiological and psychological homologies that have been described, how, unless we adopt some theory of common descent, are we to explain the fact that, as can be definitely shown, Mongolian ancestry more or less remote is at least probable? How explain why mongolian imbecility and non-racial mongolism do not occur where, as amongst the negroes and Hindus, there is not any

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probability of common descent from a Mongolian or orangoid phylum?"

Now, even if what these questions imply be admitted, this does not conflict with a fœtal hyperthyroidic theory of Mongolism, for it is reasonable to hold that it is not the homologies themselves but the cause of these homologies (a thyroid type of gland-balance) that is the unit character inherited, and if Keith is right the European has inherited a pituitary and the Mongolian a thyroid type of gland-balance. Nor is it difficult to suppose that hyperthyroidism must have a greater influence on a thyroid than on a pituitary type of gland-balance, and would therefore more likely provide the necessary preponderance of thyroid to bring about mongolism in a Mongolian, or a European with Mongolian ancestry, than in a pure European or a negro. Crookshank's difficulty in explaining the sporadic occurrence of occidental mongolism, of Mongoloid and orangoid children in Western Europe, then disappears, for the inheritance of a thyroid gland-balance in Europeans is obviously limited to those Europeans with a Mongolian ancestry, and the occurrence of fœtal hyperthyroidism is sporadic in the same way as Graves' disease is sporadic in Western Europe. Sir Arthur Keith has recorded facts about acromegaly which can be applied in the elucidation of the origin of mongolism. He refers to the skeleton of a Chinese giant who died in London some years ago—the subject of excessive action of the pituitary gland—the gland which he regards as playing a predominant part in shaping the face and bodily form of the European. The skeleton shows recognizable Chinese features, but the nasal region and supraorbital ridges of the face have assumed the more prominent European type. Have we not just the opposite of this taking place in mongolism?—excessive action of thyroid (a gland which Sir Arthur regards as playing a predominant part in shaping the face and skull of the Mongolian) on the fœtus causing dwarfism, and substituting Mongolian features for European. A comparison of the mongol and the acromegalic shows remarkable contrasts, especially in regard to those features which Sir Arthur has shown give us the key to acromegaly. He has shown that the key to the growth-changes in acromegaly is as follows: some secretion from the pituitary gland renders the osteoblasts hypersensitive to stimuli, *e. g.*, of pressure or tension, and growth results. Pressure on the alveoli during mastication causes increase in depth of the alveolar ridges, stimulated by the masseters, and the malars and zygomatic arches increase rapidly. True growth increases the base of the skull, giving better leverage and power for muscles of mastication and head movements. The area of origin of the temporal muscle is extended forwards, backwards

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and upwards towards the sagittal suture, preceded by a wave of bone, and a strong sagittal bony arch is built up, beginning first in the frontal region and extending backwards to the external occipital protuberance, thus giving a strong fulcrum for muscles. The fronto-parietal suture is sometimes elevated. In the occipital region a wave of thickened and strengthened bone forms in front of the extending attachment of neck muscles. There is growth and thickening of the supraorbital regions and the superciliary ridges, the nose becomes long and prominent, the mastoid elongated, joint-ligaments all over the body are tightened. The skull resembles that of Neanderthal man in being low in proportion to length of base. Acromegaly occurs at the end of growth. Now the growth-changes in the mongol are in marked contrast to the above: the base of the skull is diminished, and the zygomatic arches, malars, superciliary ridges, mastoids and occipital bone are reduced and show a smoothing down of muscle attachment areas. The sagittal crest is weakened by defective closure of the fontanelles and sutures.

In the mongol, pressure on the alveoli is not responded to by the osteoblasts, for the alveolar ridges are diminished in depth (15), the growth of the teeth fails to stimulate the osteoblasts and is not responded to by an increase in the area of the palate, on the contrary the palate is small and narrow, the two latter features being in part responsible for the tongue's appearing too large for the mouth (it has been shown that the area of the palate has a relation to the nature and quantity of food masticated). The area of the palate in acromegaly is not increased for the reason that after adolescence the stimulus to its growth (growth of teeth) is absent. In contrast again to acromegaly pressure at joints fails to stimulate growth, lax ligaments and joints resulting. The contrasts between acromegaly and mongolism are such that one seems justified in assuming that if acromegaly is caused by endocrine imbalance so also is mongolism. It is as if the osteoblasts were rendered hypo-sensitive to pressure and tension stimuli in mongolism, and this might be accounted for by the retarding action *in utero* of thyroxin on cell-cleavage, differentiation and development, as is described by Torrey. An antagonism suggests itself between the pituitary hormone and the thyroid hormone, as if pituitary brought about large skull base with relatively large capacity for the muscle control centres, extension of muscle attachment areas, strengthened fulcrums for leverage for muscles, and small skull vault, whilst thyroid brought about the opposite with small skull base and large vault for expansion of the neopallium—as if thyroid advanced the evolution of mind, and pituitary of muscle.

Against Dr. Crookshank's theory of descent (16) the following

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facts have been adduced. In man the sphenoidal angle of Virchow diminishes from the time of birth, whereas in the ape it is always increasing, and a similar contrast is observed in the brain itself, for in the simian brain the convolutions of the middle lobes appear first and are completed before the convolutions of the frontal lobes appear, whilst in the human brain, on the contrary, the frontal convolutions appear before the convolutions of the middle lobe. From these data it has been argued that " man cannot be a descendant of a being whose development is in inverse order to his own." This deduction, however, does not seem justified, for since thyroid (and it has played a part in evolution) can bring about shortening of the base of the skull, and retraction of the nasion, it may also have altered the angle of Virchow, and, since it can bring about constriction of the base of the skull and expansion of the vault in the frontal region it may well bring about a reverse order of the development of the convolutions of the middle and frontal lobes of the brain. Support for my views confronted me recently quite by chance. On looking up a representation of mongolism in an Ethiopian infant (17), I found alongside it the picture of an anencephalic monster; the text states that " the fœtus was delivered at the beginning of the seventh month and was alive when half delivered . . . the eyes protruded about three-fourths of an inch." In one of the few clinical accounts in this country of the rare disease cleido-cranial dysostosis (18) many signs common to this disease and mongolism are mentioned and, in addition, from the text and the accompanying photograph, the following signs which it is held are caused by the mechanics of fœtal eyeball protrusion can be made out, *viz.*, high arched eyebrows, wrinkled forehead, prominent eyes, slight degree of double ptosis, and scanty eyebrows and eyelashes.

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Clinical Notes and Cases.

(1) *An Unusual Symptom of Encephalitis Lethargica.* (2) *A Case of Rupture of the Heart.* By SAMUEL M. ALLAN, M.B., Ch.B. Glasg., Assistant Medical Officer, County Mental Hospital, Whittingham.

(1) Encephalitis lethargica presents a great variety of signs and symptoms, but one which has received little attention and has been but rarely reported is that of palilalia.

M. A. S—, a patient admitted March 10, 1927, suffering from post-encephalitic Parkinsonianism, was noted some time after admission to answer questions in a very curious manner. If asked how she was she replied, " I am very well, very well, very well, very well, very well, very well," the voice gradually dying away, until the last " very well " was merely whispered. With each repetition the articulation became less clear. The number of repetitions varied, the usual number being six to eight. No matter what the patient was asked, the last phrase of her sentence was so repeated. When engaged in conversation, however, and kept talking, this mannerism was not noted, but if she was given a rest and then suddenly questioned it reappeared.

Besides other symptoms this patient has a slight left-sided hemiplegia and a festinant gait.

Early last winter, it is interesting to note, she was treated by induced malaria. No benefit has resulted from the treatment.

The patient is quite aware of her idiosyncrasy, but can in no wise correct it.

In 1927 MacDonald Critchley reported four such cases occurring in post-encephalitic patients.

(2) *Case of rupture of the heart.*—C. A—, an epileptic, æt. 62, on May 31, 1928, had a very severe fit, from which she recovered perfectly.

On June 2 she complained of not feeling well, and when put to bed was sick and vomited. On examination nothing unusual was discovered, except that the pulse was very small and thready.

On the night of June 4 the nurse's attention was attracted to the patient, who was breathing heavily. She was extremely pale and quite unconscious. The patient died 15 minutes later.

At the *post-mortem* examination the pericardium was ballooned out by a great mass of blood-clot, in the centre of which was the heart, at first quite invisible when the pericardium was snipped open.

A rupture of the anterior wall of the left ventricle was found which admitted one finger. The heart muscle was pale and fatty. The valves were in fairly good condition.

The unusual feature in this case was that the rupture occurred, as was said before, when the patient was asleep. In most cases reported it has followed some violent exertion.

I am indebted to Dr. Clark, Medical Superintendent, for permission to publish these cases.

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Medico-Legal Notes.

Two interesting cases are reported from Australia:

REX *v.* EDMUND NICHOLAS KELLY.

This case was tried at Perth, Western Australia, on April 11 and 12. The prisoner was accused of the murder of Police-Sergeant Mark, on March 7. The facts were that the prisoner was refused drink in a hotel. He said he would go and obtain a gun, and would shoot the bar-man and another man who was present. He went out, returned with a revolver, and fired at a mirror. The sergeant, hearing the shot, rushed in to secure the revolver; in the struggle which ensued he was shot in the abdomen, and died two days later. The prisoner had often been in prison for alcoholic and other kinds of offences. About seven years previously he had received an indeterminate sentence, but had been released.

The first question which arose at the trial concerned the prisoner's fitness to plead. It was admitted by the prosecution, that the prisoner had been in mental hospitals at Dublin and at Brisbane, and that at the latter institution he had claimed to be King George and Sir George Beresford. On February 17 he had been admitted to the observation ward of the Perth Hospital, where he had been violent (this would appear to have been directly due to alcohol). There was a marked divergence of medical opinion. Dr. James Bentley, the Inspector-General of Insane, had examined Kelly on April 4 and 6, when he had found his memory to be very defective. Kelly stated to the witness that he had spent the greater part of his life in prisons and asylums; that he had been persecuted; that there were worms all over his system, and that these had now reached his head; that his food had been drugged while awaiting his trial; that he heard voices, which said, "We'll get him and dope him," that the murdered man had appeared to him in prison, and that, on pressure, a red light and a blue light had become visible at the site of the wound; that the murdered man had said that he was in heaven, and that the prisoner would get there "through dope," and would show three red lights. The prisoner had further stated that he owned the hotel, and that a voice had told him to assert his rights, as an alternative to getting his head cut off; and that he was obliged to obey the voice, whether he thought its orders were right or wrong. The witness considered

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that Kelly had been insane for a long time past, and that his condition had been aggravated by the consumption of alcohol. He did not consider that there was any question of feigned insanity. On the other hand, Dr. Charles Douglas Kerr, the prison medical officer, had seen Kelly, on various occasions, during the past five years; he had never heard him speak of "voices"; he had never found any delusions, except those of being persecuted by the prison authorities. The witness had always regarded Kelly as sane; he was liable to impulsive outbreaks upon trivial provocation, but this was not necessarily an indication of insanity. The witness considered Kelly to be a true instinctive criminal. Dr. Donald Stewart McKenzie, District Medical Officer, considered that Kelly's actions, at the time of the crime, showed a purpose so well maintained as to put them quite beyond the actions of a lunatic; they were deliberate, and showed comparatively clear reasoning.

The prisoner was found fit to plead. The trial proceeded in the usual way, and the facts of the offence were established. The medical evidence, as detailed above, was repeated. The prisoner gave evidence on his own behalf. He stated that he had been in various mental hospitals. Once he had been confined in such an institution for chasing a man with a sword, and, on another occasion, for threatening a man with a knife. He had been drinking on the day of the offence, and had fired the revolver simply with a view of frightening the bar-man. He had never intended or desired to shoot the sergeant. From the reports, it would not appear that the prisoner said anything about "voices" in his evidence.

The defence was that Kelly was insane at the time of the crime, or alternatively that the shooting was an accident. The jury found a verdict of wilful murder. Asked whether he wished to say anything, Kelly made a speech lasting thirty minutes, in which he referred to Magna Charta and other irrelevant matters. Sentence of death was then passed but has not been carried out, for after being confined for a time in the prison hospital Kelly was removed to a mental hospital.

Cases in which there is a conflict of medical testimony are always of interest, if only for the quite unwarranted suspicion which they throw upon the value of expert evidence. It would be improper for us to comment upon this aspect of a case in which our only information is derived from newspaper reports. We may, however, remark that the course which was ultimately adopted, and which was, doubtless, arrived at upon medical evidence, would appear to support Dr. Bentley's view. It seems unfortunate that a man who was obviously liable to become dangerous to others was released from serving his indeterminate sentence.

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Rex *v.* John Sumpster Milner.

This case was tried at Perth on April 19 and 20. The accused was a farm labourer, and was charged with the murder, on February 28, of a girl, æt. 11. She had been sexually outraged, and then murdered with a shot-gun. Suspicion fell upon the accused, who was noticed to have blood on his hands and clothing. He first attempted to explain the presence of this blood by a tale about a fight with some Italians; later he altered this to one of having killed a kangaroo; still later he made a confession, and took the police to the place where the crime had been committed. While in prison, awaiting trial, he disclaimed any memory for the events at the time of the crime.

The facts were not disputed, and the defence was that of "moral insanity." No medical evidence in support of this defence was adduced. The farmer who had employed Milner for the past eight years stated that his conduct, at first exemplary, had deteriorated; he would tell tales of a fantastic nature, for which there was no foundation in fact; he was restless, and would absent himself from the farm for days at a time. The witness had, prior to the crime, considered the propriety of having Milner's mentality investigated.

Drs. Bentley and Kerr, who gave evidence in the previous case, furnished rebutting testimony. They stated that they had found no evidence of insanity in Milner. Dr. Kerr said that he was not prepared to make a clear distinction between moral insanity and moral depravity.

The summing-up appears to have been based upon the McNaghton criteria. But the judge is reported as ruling that loss, on the part of the accused, of "capacity to control his actions" would, if established, justify a verdict of insanity. The jury found the accused guilty of wilful murder, he was sentenced to death, and has been hanged.

A UNIQUE INCIDENT IN LUNACY ADMINISTRATION.

The following case, related by the Hon. O. T. J. Alpers in his *Cheerful Yesterdays*,* presents features of such extraordinary interest as would seem to make it worthy of record in a psychiatric journal. Such events are, to say the least of them, unusual, if not unique, in the history of lunacy administration.

* John Murray, Albermarle Street, London, W. 1. 15*s.* net, postage 6*d.*

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Cheerful Yesterdays was written under tragic circumstances. The author, a distinguished judge of the Supreme Court of New Zealand, became the victim of malignant disease. Operative measures failed and he died about a year later, before his book could be published. Eight days after his operation he began the dictation of these memoirs to his wife, and he concluded them just before his death. The book forms delightful reading, and as Lord Birkenhead says in his Preface, can be recommended to readers of all ages "as a worthy record of a fine personality and a valiant career."

Now for a shortened account of this case:

A. B., a very wealthy farmer, who owned a sheep station and pastoral land of about 30,000 acres, with a wife and six children (ages from 36 to 24), was in 1896 found to be insane—on inquisition—and remained in a mental hospital for twenty-two years, while his estate was managed by committee. During the war the estate suffered through heavy taxation and difficulty of obtaining labour. It was felt that the retention of such a large estate in one holding was against the public interest. If it were divided among the four sons, who had been brought up as farmers, or sold in smaller blocks, it would be greatly to the advantage of the family.

Three years before becoming insane A. B. had made a will providing a large annuity for his widow and dividing the property equally among the children. The family solicitor suddenly conceived the brilliant (!) idea of promoting an Act of Parliament to grant administration of the estate on the assumption that A. B. died on the date of the passing of the Act. The Bill was accordingly drafted and it was referred to a Judge of the Supreme Court to report whether the Bill was a fit and proper one to pass.

The Public Trustee as Statutory Commissioner of Lunacy represented A. B. in court, and Mr. Alpers was instructed as counsel. He saw no objection provided that an adequate sum was set aside for the maintenance of A. B. during the period that might elapse before he died—*i. e.*, between his civil and his natural death! £9,000 was agreed upon, and a motor car, etc., was provided.

One psychiatrist reported that A. B. could not possibly recover. Two other eminent mental specialists were nominated by counsel to examine him also. In affidavits they declared that A. B. was suffering from chronic delusional insanity, with marked symptoms of senile decay, and that his mental condition was deteriorating rapidly. They expressed the opinion that he could not even improve, much less recover.

The Bill passed without difficulty, and A. B. "died" on the date of the Act, in the district where his property was—not in the district

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where the mental hospital was. All the children were deemed to have survived A. B. There was even a clause providing for the payment of premiums on his life insurance policies. All was well—and then A. B. recovered! He remained apparently a little eccentric, but there was no justification for keeping him in a mental hospital. He came home, and he appears to have recovered his common-sense, for when the provisions of the Act were explained to him, he said he thought it very sensible and had no wish to disturb the arrangement. Thus he remained "dead" until the date of his death.

What might have happened had this "dead" man taken it in his head to marry again and beget another family!

ELEANOR RITCHIE.

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Occasional Notes.

HAVELOCK ELLIS.

We feel it our duty to call the particular attention of our readers to the biographical portrait of Havelock Ellis, depicted by Mr. Houston Peterson, which was published on September 11.*

The book is founded mainly upon Ellis's published works, unpublished notes written by him during his youth, personal letters from him to the author, written answers to specific questions put to him by the author, and a commentary on the author's manuscript before publication. In addition, the author has had the inestimable advantage of many interviews with Ellis since he first met him in 1925, and has also gathered much valuable information from Ellis's relatives and personal friends.

The result is an intensely human document, in which is laid bare for our contemplation and uplifting the soul of a man with a noble purpose in life, from which no sort of persecution or obloquy could turn him, such was his conviction of the righteousness of his mission and of its enduring benefit to suffering mankind.

The life of Havelock Ellis as thus revealed, and as we have for long viewed it, has been a tragedy, not for him, but for those to whom he made his appeal.

He rests serene and content, having set alight the lamp of science in a territory for long held secret by social "taboo," where human suffering existed side by side with sin and degradation, and from which the wayfarer turned away in real or affected disgust. Ellis blazed a trail through it along which the physician and his satellites can pass without let or hindrance, and thus rendered possible the purging of this morass from its slime and filth.

No, the tragedy is for us to have allowed the spirit of the Scribes and Pharisees of old, religious prejudices, false modesty and prudery to blind us to the genius, humanity and pure motives of this truly great man, and in place of encouraging and rewarding him, to have either damned him with faint praise or cold neglect.

* *Havelock Ellis: Philosopher of Love*, by Houston Peterson. George Allen & Unwin, Ltd., 1928. Demy 8vo. Pp. 432, with illustrations. Price 18s.

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There is yet time to restore our self-respect and make amends. If we fail to respond we may yet find ourselves erecting monuments, with tears of compunction, to one whom in the flesh we stoned.

As an Association we did in 1923 what we could to repay the debt psychological medicine owed to Havelock Ellis, poet, physician and psychologist, by electing him an Honorary Member. May we not as individuals use our influence with medical science generally to bestow on him some signal evidence of appreciation of his pioneer work in the almost untouched field of sexuology, and of unqualified admiration of all his strivings to place it securely within the domain of science?

Nobody can read this book of Houston Peterson's without feeling the justice of our appeal. For this and for its real merits as a literary production of the highest order we hope that it will be widely read. It shows Ellis's humble beginnings; his strivings as a teacher, medical student and physician; his realization of his mission in life and the circumstances which led to it; the buffetings of his soul by temptations and questionings; his periods of despair and self-abasement; his conversion to the gospel of beauty in nature; his victory over self and his dedication of himself to the cause of truth; his ultimate triumph in the field of humanity; all depicted with the delicacy of touch of the true artist.

Readers in every walk of life will find this book of absorbing interest. To study it is the duty of every physician.

J. R. Lord.

SEVENTEENTH CENTURY INSANITY.

From the Writings of Thomas Sydenham (1624–1681).

It is mainly through his description of chorea that Sydenham is known to the present generation, but he was a keen observer of the ills of the flesh, and his views on insanity may be of interest to those concerned in its treatment. He had a fashionable London practice in the years of the English civil wars, and his *Medical Observations* were upon cases which he began to record soon after 1660.

The present City of Westminster was then very different, and the swamps of St. James's seem to have been a fertile breeding-ground for malaria-bearing mosquitoes. Sydenham seems to have believed that malaria was a cause of insanity, for he wrote as follows (*he is discussing the complications which follow the intermittent fevers*):

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"One sort of symptom, and that an important one, it may be proper to mention in this place; it yields neither to purges nor evacuants of any kind, least of all to blood letting. In defiance of these it even takes strength from their administration. It is a form of mania, peculiar and *sui generis*. It occasionally follows long agues, especially if they be quartan; it stands beyond the reach of all the usual remedies. From the exhibition of strong evacuants it degenerates into fatuity, and ends only with the life of the patient. I have often wondered that no notice has been taken by Authors of this symptom, as I have observed it not infrequently. The other forms of madness are mostly cured by means of copious evacuations, bloodletting and catharsis. This can bear none of these. To fight against it, is to mitigate, indeed, the volume of the disease, but to reduce the patient to a state of incurable fatuity."

Sydenham's pathology may seem crude, but his powers of clinical observation were remarkably acute. It is hardly likely that he would omit to take notice of a disease with such marked characteristics as general paralysis; yet, in no other place in his writings, does he describe any condition which seems to correspond with this category, "a form of mania, peculiar and *sui generis*, which degenerates into fatuity, and only ends with the life of the patient"—this must surely refer to general paralysis.

Sydenham's experience that, what we now call dementia, can follow what we now call malaria, is frequently repeated in the present day. It is found that the syphilitic infection may occur while malaria is rife; soldiers on foreign service may acquire the two diseases at much the same period, and the one seems in no way to hinder the progress of the other. The treatment of general paralysis by the induction of malaria seems, on the face of it, a little irrational; but as Sydenham himself would probably have said, "Periculosæ plenum opus aleæ." His Latin seems to have been a little weak, and when he felt that a classical quotation was required, this was the one that he commonly used.

A further extract gives some of his views upon what we now call schizophrenia:

"However the common form of madness, which befalls healthy men, and which is not preceded by any fever, is wholly of a different breed from the present and is to be treated upon wholly different principles in respect to the use of evacuants."

He proceeds to describe the treatment with a compound of colocynth and scammony at stated intervals (now some prefer to speak of bowel intoxication and recommend colonic lavage instead). He

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describes a consultation with his learned and dear friend, Dr. Thomas, upon a lady at Salisbury, whose faculties were seriously impaired, and how, although she was pregnant, the usual remedies were adopted with an entirely satisfactory conclusion.

He tended to include under the general name "hysteria," many of the diseases whose nature he did not understand; he attributed this to a disorder of the "animal spirits" (*libido!*). His concept of hysteria was rather broader than we would use to-day, and it seems to have included conditions so widely apart as dropsy and toothache. His clinical descriptions are very readable:

> "The patients believe that they have to suffer all the evils that can befall humanity, all the troubles that the world can supply. They have melancholy forebodings. They brood over trifles, cherishing them in their anxious and unquiet bosoms. Fear, anger, jealousy, suspicion, and the worst passions of the mind arise without cause. Joy, hope and cheerfulness, if they find place at all in their spirits, find it at intervals few and far between, and then take leave quickly. . . . In these, as in all painful feelings, there is no moderation. All is caprice. They love without measure those whom they will soon hate without reason. Now they will do this, now that; ever receding from their purpose. All that they see in their dreams are funerals and shadows of departed friends. Thus are they wracked both in mind and body, even as if life were a purgatory wherein they expiated and paid the penalty of crimes committed in a previous state." (Shades of Jung!)

He maintains the possibility of what our legal friends would call the doctrine of partial insanity:

> "Saving and excepting the hallucinations aforesaid, those who thus suffer are persons of prudent judgment, persons who in the profundity of their meditations, and the wisdom of their speech, far surpass those whose minds have never been excited by such stimuli. Hence it is not without reason that Aristotle has observed, that melancholy men are the men of greatest genius."

He describes the treatment that he found to be beneficial in cases of acute mania in young patients. He recommended the withdrawal of blood from the arm to the extent of nine ounces on two occasions with an interval of three days; this to be followed by further bleeding from the jugular vein. Moreover, he recommended that an aperient be given at intervals of three or four days, on eight or ten occasions; a favourite prescription for such cases as these would be a compound of gamboge, black-cherry-water and syrup

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of cloves. One may well imagine, that, after treatment so drastic, a maniacal patient would have little strength left with which to show his mania.

In essentials, Sydenham seems to have had a fair knowledge of insanity, and his descriptions are remarkable when one considers the state of medical knowledge two hundred and fifty years ago. They do not, however, equal his writings on smallpox and measles, the latter even now being the best available description for a modern text-book (Osler).* NORMAN MOULSON.

"HEUROPATHOLOGY."

THE *Clinical Archives of Talent and Genius* is a Russian journal established in 1925, which formulates for the first time "Heuropathology" ("Heuro" from εὑρίσκω meaning to find, to learn, etc.) as a separate and independent study. This journal, unique of its kind, devotes itself to the study of the problems of talent and genius from the clinical, psychological and pathological points of view. It collects and publishes data, hitherto widely scattered, regarding the physical diseases, mental characteristics, heredity, mode of life, achievements, personality, etc., of persons of talent and genius.

The object of "Heuropathology" is to study the precise relationships of pathological states of mind and body to the creative type of mind.

The journal, published quarterly, is edited by Dr. G. V. Segalin with the collaboration of Drs. G. Rossolimo, Galant, Rudneff, Urman, W. Lange, Kiese and Tramer.

So far twenty-five articles have appeared concerning such Russians as Tolstoy, Dostoevsky, Gorki, Pushkin, Vrubel, Lermontov.

Further particulars of this journal can be obtained from Marianna Chrapovitzkaja-Gutman, Kusnechnaja 57, Swerdlovsk (Ural), Russia.

* The extracts quoted above have been taken from Dr. Latham's English translation of Greenhill's text, as published for the Sydenham Society in 1848.

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Part II.—Reviews.

Common Principles in Psychology and Physiology. By J. T. MacCurdy, M.A., M.D. Cambridge University Press. 9¾ in. × 6½ in. Pp. xvii + 284. Price 15*s.* net.

"If the concept be once established that relations, rather than direct sensory experience, are fundamental, then values, previously relegated to religion and art, will become commonplace and paramount in greatly enriched lives. That for which the human spirit yearns will become 'scientific.'" This passage occurs towards the end of the last chapter of his book, which the author declares to be essentially a postscript, and for the matter of that a philosophical one. It is at once the conclusion and the text upon which Dr. MacCurdy's *Common Principles* is written; for in his attempt to state a set of principles by which the two at present widely divorced sciences of psychology and physiology may be brought together, he is consistently an anti-materialist and anti-mechanist. It is a conclusion which follows from the whole argument of the book; it is implicitly contained in the initial standpoint he takes up. MacCurdy uses the doctrine he developed in his previous work—*Psychology of Emotion: Morbid and Normal*—as the starting-point of his *Common Principles* in laying down that "the basis of mental life is an unconscious flow of images; when these enter consciousness, becoming subjective data, they are the fundamental elements of which 'thoughts' are composed; on the other hand, they initiate and control many physiological processes of both voluntary and involuntary systems." The solution of the lamentable antithesis between physiology and psychology as they are taught to-day is, he believes, to be discovered in his doctrine of "patterns" in the unconscious mental flow; and "patterns are," he says, "immaterial."

This is not the first attempt that has been made to bring psychology and physiology into closer touch, and to put an end to what is at once a thorn in the side of the serious thinker, and something of the nature of a scandal to biological science. Not one of the older quasi-scientific, but wholly metaphysical, theories, however, proved to be generally acceptable; probably because they were put forward as offering the solution of a problem which was wrongly stated at the outset. The fault is traceable to Descartes. Of the more recent theories it can only be said that they are not generally accepted because they are not yet fully worked out, and because they leave out of sight facts that must certainly be taken into account. MacCurdy's attempt makes out a *prima facie* case for

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most serious consideration, unprejudiced as it is by *a priori* philosophy, and takes into account apparently most if not all of the relevant facts. His own doctrine, consistently developed from the point of view of the psychologist, the psychiatrist and the physiologist, has close affinities with those of the behaviourists and of the formalists, as far, at any rate, as psychology is in question, and affinities not so remote with those of Aristotle and Aquinas. Biologically considered, it has close affinity also with the doctrine of the neo-vitalists, as Driesch and Pauly. What are MacCurdy's immaterial " patterns " if not relational systems, forms, entelechies?

It would be impossible, even in a fairly extensive notice, to do justice to this book. It covers a very large part of the ground of two sciences and ranges over a vast array of facts. The adequacy of the "common principles" MacCurdy proposes must be judged by the way they fit the facts and explain them, as well as by their success in destroying " the bulkhead which has appeared between psychology and physiology." But the principles themselves should be examined, if only in a general way, in any review of the book. These principles are all derived, first, from psychological data as Laws of Patterns; afterwards, from physiological observations as Laws of Designs (physiological) analogous to the psychological ones. The argument depends upon the concept of the " pattern "; and this, in turn, is derived from the concept of the "image," "liminal image," and " image function."

It is by an objective definition of imaginal process that the author passes from what every individual introspectively recognizes as an image which *he* experiences, to "liminal images" and " image functions," which, though inaccessible to introspection, may be held to account for his behaviour. This is an attempt to link up the two psychological methods of introspection and observation of behaviour; an attempt which is, and can hardly fail to be, unsatisfactory, since there can be no direct evidence that images, as we consciously know them, are images when they are no longer in consciousness; or that the behaviour of other persons than ourselves is to be accounted for by the occurrence of images to them whether conscious or otherwise. MacCurdy, however, defines " imaginal process, from the standpoint of an objective observer," as " some kind of reproduction of a specific bit of past sensory experience, which is inferred to exist from the presence of a reaction for which the specific experience would be the appropriate stimulus —this reaction not being completely accounted for by any demonstrable environmental event." Obviously, such a definition would cover true images introspectively discernible as revivals of past conscious experience, as well as " unconscious " images and image functions, if such should indeed exist. The latter could thus be accepted as concepts for psychology. But the question is, Do they in fact exist as mental rather than as physical entities? As MacCurdy points out, biologists like Semon and Loeb taught a very similar doctrine to account for the fact of modification of behaviour by experience; but these biologists held that the modification was one of physical structure and not of mind. MacCurdy's

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postulate is that of a very large number of psychologists; namely, that unconscious mental processes (wishes, desires, impulses, etc.) do as a fact occur, and that images need not be excepted from the list. He thereupon proceeds to apply this concept of imaginal process as immaterial, not only to the whole range of phenomena of psychology, but to the whole range of phenomena of biological science as well. He proposes to use psychological concepts and terms in dealing with physiological facts. This, clearly, is to use the terms in question analogically; and it may be asked, How far does the analogy hold good? If physiological processes are indeed material, what analogy can there be between them and psychological processes? The answer is that there is an exceedingly close analogy between the two because of the relations involved between the elements of either. "We are looking," writes MacCurdy, "for simple mental elements that may serve as building blocks in the foundation supporting the superstructure known to consciousness. It has already been suggested that the elements required may be imaginal processes. If so, the question arises, What are the means whereby they are united, arranged or grouped? The answer is *Patterns*." And these are the "unconscious and instinctive agencies underlying our conscious mental life." Whether from the psychological or the physiological point of view, organic activity leads to the postulation of these patterns; patterns exemplified in the laws of association and of interest unconsciously operating, as well as in the distribution of nervous impulses throughout the different neurones of the central nervous system; which distribution also must be looked upon as patterned to a design. Moreover, "so long as enough neurones are excited to represent the design, it is irrelevant how many or what neurones are excited."

Though he applies it indifferently to associations of sensory data, instinctive and acquired behaviour units, anatomical structure and function, and the like, MacCurdy nowhere adequately analyses the concept of "pattern." But it is clear that he has in mind throughout, more than anything else, systems of relation; and holds that these immaterial entities, partially innate and partially acquired, determine the mental and the physical life of man. In his view of the acquisition of new patterns we have perhaps the best clue to his concept of their nature. On the one hand (psychological), original patterns due to heredity tend to unite, so that the stimulus for the activation of one of them becomes stimulus for another; and an integration in a new unit is thus brought about. Indeed, new patterns may come into being independently of any specific new experience, since "liminal images may allow utilization of substitutes." On the other hand (physiological), "repetition of" original biologically patterned "reaction . . . specializes the structure which participates in the reaction." And "when structural specialization is complete, the reaction is so perfected as to make possible a new pattern, but the new function is then dependent on the integrity of the structure, together with the operation of pre-existent more primitive functions." In order to maintain and round off his doctrine, MacCurdy accepts the theory of the

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transmission of individually acquired characteristics. Anatomical structure perfected by function, when active, is the correlate of an image function or a liminal image. It is, in fact, a design, or crystallized pattern, the immaterial concretized in matter. Such in brief—though it is already lengthy—appears to the present reviewer to be the main thread of MacCurdy's argument for the "common principles" he proposes. But the book must be read in detail to fill in the dry bones of the sketch. And it certainly will repay reading, for it is a most valuable contribution to the scanty literature of the subject.

The student should be warned, however, that it is not altogether an easy book to read. The unfamiliar character of the employed concepts, their analogical application to matters of diverse orders, and a certain lack of clearness in exposition, make it difficult. It would be greatly helped by the addition of a full glossary. But all this notwithstanding, it is an exceedingly suggestive and stimulating book; and, if it requires considerable hard thought on the part of the student, that can only be to his own advantage. F. AVELING.

Mental Disorders: A Handbook for Students and Practitioners. By HUBERT J. NORMAN, M.B., Ch.B., D.P.M. Edinburgh: E. & S. Livingstone, 1928. Pp. xv + 463. Crown 8vo. Illustrations, 57. Price 14*s.* net, postage 6*d.*

Though Dr. Norman expresses in his preface an anxiety to avoid, as far as possible, controversial matters, he has, as a matter of fact, succeeded in writing a challenging, even a provocative book.

The author's attitude to his subject is not easy to understand or to describe. He does not set out to deal with the modern aspects of psychiatry. He says, "I am not sufficiently converted to a belief in them (the latest theories) to adopt—yet awhile at any rate—a revolutionary attitude towards the past and towards the great men who are its representatives." And again, "It is only fitting that we should acknowledge our indebtedness to them, and also because much of modern psychiatry is still in an inchoate condition—or at least so it seems to me."

This no doubt accounts for the few references he makes to the clinical and pathological research work which has emanated during the past decade from the wards and laboratories of the mental hospitals of this country. On turning to the index of authors which concludes the book we find the author to have been mainly under the influence of Dercum, Rosanoff and Régis. Buckley is largely quoted, principally in biological matters germane to psychology. There are a crowd of others referred to, including Mott, the latter in respect of the histology of the pituitary gland in mental cases. On reading the text, however, it is apparent that the author has also been much influenced by Mott's teaching on "Body and Mind." Mott, however, be it noted, was not a crude materialist or mechanist in matters psycho-physical, but laid great stress on the vital impulse or "urge" and the possession by the body of a biochemical memory.

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Dr. Norman declares that mental diseases are best regarded as neurological problems or "more broadly, as a part of biological research." Such factors as "energy" and "life" he relegates to the physicist and biologist. Man must be considered solely as a member of the animal kingdom, there being from amœba to man, to all intents and purposes, an almost unbroken chain of gradations. We are bidden to bear these facts in mind, for "even the most casual study of what has been written about philosophy or psychology will serve to show the tangle into which we get if we do not do so." Conduct should be studied biologically, and psychology must be based upon physiology. "What has become practically axiomatic in neurology is being slowly accepted in the pseudo-science of 'psychology.'" Later on he says, "Slow but steadily and despite reactionaries, accurate information is being acquired of the working of the nervous system in health and disease." (Slowly, oh so slowly! In the past decade his school has produced little or nothing worth mentioning!) The mind is to be regarded as a congeries of functions of the brain, just as respiration is of the lungs. Man has to adapt himself to social requirements, to learn what custom and law enjoins and to refrain from doing other things. "In more technical language, inhibition of nervous action has also to be acquired." Dr. Norman agrees with Mercier that conduct is "action in pursuit of ends," and is thus purposive in character. It depends upon two factors—the spontaneous discharge of energy, and the release of energy in response to an external stimulus. He fights shy of Mercier's insistence on the importance of the former and concentrates on the latter, which he says for the most part is a series of reflexes of different degrees of complexity. Everything, he thinks, seems to point to changes in the nervous system as being responsible for conduct, but "prolonged and patient investigation is necessary into the chemical changes which occur in normal and morbid conditions."

Having thus satisfied his conscience by these preliminary and satisfying declarations, he finds himself able to look at conduct from a social point of view "without a constant reference to the physiological or pathological changes."

It is obvious that some kind of neurology of or science of conduct based upon physiology and biochemistry is preferred to the modern psychology, say, of the past decade, which claims to be the science of thought and conduct studied introspectively and objectively.

Mercier taught that we could never know what goes on in the minds of other people unless and until it was revealed by their conduct, and that only by disorder of conduct could we infer the presence of disorder of mind. If there were disorder of conduct insanity could be inferred without further investigation of the mind. It is true that he believed a knowledge of psychology to be of no value to the student of insanity, yet he agreed that the acquisition of such by the latter was right in principle. The fault lay with the kind of psychology, so he taught one specially adapted to the purposes of the psychiatrist. But the Great War, the rise of dynamic and biological conceptions in psychology and psychopathology, and

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the stimulus given to the study of the psycho-neuroses and the earliest stages of mental disorder, have had their effects on the needs of the medical student in regard to psychiatric education. Psychology can be no longer denied an important place in it.

The author's presentation of the biological attitude to psychology is open to criticism. His descriptive psychology as far as it goes, is, for the most part sound enough, but it must be remembered that much of what is now accepted as valid will need revision in view of the advances made by experimental psychology (*vide* the writings of Spearman, Thouless, Pear, Wynn Jones and others).

Consciousness is declared to be a more highly developed stage of irritability or responsiveness to stimuli which characterizes all forms of life, even the amœba. This is confusing physiological and psychic functions with a vengeance. The plain teaching of biology is that (1) irritability, *i.e.*, sensitivity plus responsiveness, (2) conduction, and (3) end-effects are physiological functions of protoplasm and of the primitive nervous system. These functions never lose their physiological character however complex the nervous system becomes. Consciousness, at once the greatest fact and enigma of psychic life, cannot be so treated. It stands for something, unknown and unkowable, which is not intrinsic to any psychic function but apparently extrinsic and relative to each. It involves the notion of continuity, *i.e.*, unbroken sequence. Thus we speak of the span, the field, the continuum, the background of consciousness.

Introspection is recognized, but dealt with summarily with the aid, curiously, of metaphysics, its fault being "that it cannot inform us even of the mechanism which is at work; it cannot inform us that we have a brain made up of nerve-cells and fibres, nor that we have a heart and lungs."

Perhaps Hume's notion occurred to the author: "We may well ask, what causes induce us to believe in the existence of body? but 'tis in vain to ask whether there be body or not. That is a point which we must take for granted in all our reasonings" (*Human Nature*, part iv).

Introspection is further condemned because of its use in psycho-analysis and its connection with melancholia and paranoia.

The question of whether there is any force or energy operating in the organic world additional to those known to be present in the inorganic world is apparently left in suspense, and the reader remains in ignorance of the author's views as to whether "purpose" in conduct is directed by an outside agency, *i.e.*, is one governing environment, or is inherent in living tissue. Watsonian behaviourism is not specifically mentioned, but Dr. Norman's views come preciously near it. Let us quote him so as not to be mistaken:

"If we look at the matter from the psychological point of view, the predominating stimulus may be regarded as the 'motive,' the check as the power of inhibition or of refraining from the performance of a certain act. It is often said we must not make the mistake of mixing up psychological terms with physiological ones, but this is the crux of the whole matter. It has been because of the failure to correlate psychology with physiology that advance has been slow. Pavlov puts the matter very concisely. Accordingly to him, psychic activity 'is nothing but an endless chain of reflexes, that is, determined responses to environment.'"

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And again:

"The brain can no more than the gramophone initiate its action: it merely transforms the energy it derives from being wound up."

The reader is given the task of reconciling this declaration with the statement early in the book that "within certain not well-defined limits the individual may exercise, or inhibit, his powers." Every psychologist knows the difficulty of likening the functioning of the mind to anything, but the simile of a force, a machine and a driver is the most useful one to the student.

The psychological chapters open with the old associationist doctrine that all mental functioning is based in the first place upon sensation, and, like Stoddart, the author quotes Strumpell's patient (apparently a well-marked hysteric) in support. A series of associations between different cell areas, *i.e.*, perception, gives rise to concepts or ideas, and implies memory or the reproduction of impressions already fixed.

This is rattling the bones of Hobbes, Locke, Hartley, Coudillac and others of the eighteenth century to support the biological conception of mental functioning, of which they had no knowledge, and which they would have condemned outright as pure materialism. Though it is true that the constant play of cosmic forces on our special sense-organs stimulates both mental and physical activity, mental functioning, on the author's own showing, is based primarily upon the property of protoplasm to respond intelligently to both internal and external stimuli.

After this excursion into ancient philosophy our author reveals to us the working of the nervous "reflex arc"; consciousness as depending upon the functioning of the highly developed cortical areas; the predominance of the unconscious activities; and the next psychological chapter commences with the following paragraph:

"It has been noticed that perception depends upon certain factors, the variety of the external stimuli (objective phenomena), and upon the condition of the sensory receptive mechanism in all its ramifications (subjective sphere). There are, of course, also the internal stimuli from the organs, muscles, etc., but comparatively few reach consciousness."

All these are modern conceptions of the physiological basis of mind.

Besides raising the bogey of the "metaphysical" mind, from time to time Dr. Norman causes another spectre to flit across the stage, *i.e.*, the old libertarian doctrine of "free will" which has not plagued psychology for many years. Predestination, its first cousin, he banishes to religion. Both, of course, he could very well consign to the Devil.

The modern doctrine of "free will" is that of a reasoned determinism, and in essentials was preached by Maudsley in 1895. Volition, as it is now called, is the supreme function of that total mental organization of the nervous system best known as the "ego" which is the final consummation of experiences of the unlimited past. It is, of course, a dynamism. The "freedom" of volition arises from the fact that psychic responses to either internal or external stimuli, *i.e.*, thoughts and sensations if you like, are constantly being

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suspended indefinitely (hesitation or inhibition), and moulded by further experiences according as the unitary "ego" admits or rejects them in exercising its purpose of mastering environment—a necessary prelude to obtaining mastery over itself. This is the end in view, the final cause. The "will" is thus truly creative, and, as Maudsley says, "comes from the same unfathomable source as the impulse which inspires or moves organic growth throughout nature."

It is the forgetting of this higher evolution of the reflex machinery of the brain that leads to such mistaken notions as that underlying the simile of the gramophone. The planning of the nervous system on the principle of reflex activity is but a means to an end. By a series of gradations or evolutional levels of function man attains in volition his freedom subject only to the social organization and the moral law. There is much in this book to support this view, especially in the section on disorders of volition.

Would it not be well to make clear to the student the all-important difference between reflex activity and reflex action, between the psychic response and the physiological reflex, between artificial stimulation under laboratory conditions and natural behaviour, and how the unitary reception, elaboration, and response of the individual as a whole is rendered possible by the nervous system and its culminating glory, the psychic orginization? It would clear away many difficulties.

For instance, the author talks about capacity for awareness, of recollecting the effects of stimuli, of feeling, of a child realizing its separate existence, of an amœba withdrawing from a noxious and expanding to a beneficial stimulus, etc. The intelligent student is bound to ask what it is that does these things, and not only "how?" but "why?" Is physiology alone likely to answer these questions? Is the simile of the mechanical but self-repairing gramophone all modern science has to offer?

The puzzle is: What are we to conclude about the author's attitude to psychology and psychological research? Clearly his trouble is the conception of mind and of mental processes as dealt with without reference to or acknowledgment of the functioning of the brain. But surely modern psychology, except extreme behaviourism, has evolved from that stage, and no longer deals with epiphenomena or metaphysical notions, and this without belittling the importance of metaphysics and philosophy as legitimate departments of knowledge!

The real difficulty is that the problem of thought and behaviour can never be serviceably stated in terms of physiology. Physiology can never by itself answer the all-important question, "Why." Physiology and psychology must always remain separate studies, but *within* the fold of biology, the master science of living things. Psychology, by its own special methods, sets the case for physiology. Physiological researches into the working of the nervous system illuminate the problems which face the psychologist, but physiology has far to go before the physical

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basis of mental function is completely laid bare. Exactly the same holds good in regard to psychiatry and the pathology of mental disorders. It is no use deluding the student with false hopes in this respect. Much of what is now termed mental will always be mental and not physiological, and we may have to go further afield for what physiology fails to find a neural basis. We want to know the nature of that something which is measured by the "*g*" factor of human ability, definitely proved to exist by Prof. Spearman, let alone the "*w*" factor; and how "psychic fusion" takes place, and an explanation for those purely subjective states that do not tend to motivity, such as the impression of relations ("co-existence," "succession," "similarity," "dissimilarity."). Consciousness involves the idea of "actuality." What does this mean? Intelligence involves the idea of "capacity." What does this mean? Sensory elements of colour and sound cannot pass along nerve-tracts and lodge themselves in the centre for sight. If it were possible, all localization (even nodal) of cerebral function would be at an end. Nor can the idea of a brick pass along a nerve-fibre any more than the brick itself can.

Goethe's warning should not be forgotten when he said, "Let us not attempt to demonstrate what cannot be demonstrated! Otherwise we shall sooner or later make our miserable deficiencies more glaring to posterity by our so-called work of knowledge."

Bearing this in mind, what is wanted is the better co-ordination of psychology and physiology in the elucidation of the problems of mind and behaviour in health and disease. But to pat the physiologist on the back and at the same time look askance at psychology, as in effect our author does, is futile. The student who scorns to enter any Temple of Knowledge except one is taking up an ostrich-like attitude. He assumes a good deal because of absence of vision, and becomes an easy prey to vain imaginations, to his ultimate undoing. A student of human nature, such as the psychiatrist must be, needs to worship at many such shrines, and should not exclude those devoted to metaphysics and philosophy. They must, however, not be confused with that devoted to psychology, which has a temple to itself. As regards physiology, psychology is as distinct from it as physiology is from histology, for what is peculiar to psychology is the study of the contents of thought to which physiology alone is no sort of guide. Thus we cannot agree that psychiatry is only a chapter in a larger science of neurology, nor to the stigmatizing of psychiatry as a "pseudo" science. We thought Carl Pearson and Bernard Hart had made it clear that, by adopting dynamic conceptions, psychology had left its descriptive stage and become a true science.

We have no serious quarrel with the statement that mind is a function of the brain just as respiration is a function of the lungs, or that mind is a congeries of functions, though we would have put this relation in another way, as Mott did when he said that "all psychic processes are subordinate to and dependent upon physiological processes." We prefer this to avoid any confusion of mind with physical products of organic activity like bile, for this

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corresponds to the waste products which the brain gets rid of by the blood-stream, the true simile to the mind being the function (the purpose) of bile; and also to emphasize the truism that the body develops out of the structure of the monad or egg, while mind develops out of its function.

An important point to remember is that purpose reigns supreme in both the architecture and function of the nervous system, and that the physical organization of the psychic level is planned to carry out mental functions, so that it is right to speak of the mental organization of the brain, hence the importance of psychological research to the physiologist and the biochemist.

To conclude these criticisms of Dr. Norman's attitude to psychology, we must say we are surprised to find no explicit reference to the conditioned reflexes of Bechterew and Pavlov, so highly favoured in physiological and mechanistic psychological schools. Although originally a strictly physiological study, what appears to be true at the reflex physiological level may be usefully applied at the instinctive and thought level, and may serve to illuminate some emotional responses. The drawback is that such reflexes so applied bring us back to the teaching of the older psychologists of the principle of association by contiguity of time as a dynamism, a teaching which has no place in modern psychology. However, psychologists cannot afford to neglect this study.

But chain reflexes can have no counterpart in the mechanism of a psychic reflex activity which is purposive in character, nor can they account for instinctive behaviour, for the position of each link in the chain is determined by the stimulation of the immediately preceding link and not by the end in view, which is necessary for purposive conduct.

As serving physiological functions, these reflexes are, of course, like the simple reflex, adaptive in character.

In regard to the chapter on the cerebral cortex and its functions, we cannot complain that the author's conceptions are not up-to-date. He makes it clear that cortical areas are not exclusive centres of particular functions, but nodal points in a complex system of neurones acting as a whole in the performance of any function.

The position of the cerebral mechanisms for instinctive behaviour is not made quite clear. Presumably they are located in the cortex and basal ganglia. The teaching that the psycho-physical structure of mind or mental processes are innate and the contents of mind acquired is an elementary but important fact that might have found a place somewhere in this chapter.

All mental processes are written somewhere in the architecture of the brain, but thoughts and feelings are only stored there as working plans or patterns of experiences, being constantly added to or amended during mental activity. Together they form, when in a state of activity, the ever-varying but always unitary "ego."

We must say, however, that despite the restriction Dr. Norman imposes upon himself, an immense and interesting field is covered, far more than is at once apparent. That this is done in such small

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compass is highly creditable to the author. Not a word is wasted; and terseness and freedom from ambiguity have not been attained at the expense of readability. A great amount of time and trouble must have been spent over this—a labour of love, let us say, on the part of the author.

Notwithstanding our criticisms, we are bound to say that the greater part of the book is remarkably good. The book, too, is a credit to its publishers, being clearly printed on excellent paper and of a convenient size. How far it will meet the requirements of students is doubtful. We recognize, of course, the limitations of space in a text-book of this size and kind, but students require at least a knowledge of the trends of modern research, in order to visualize something of the future, and to take a share, perhaps, in the progress being made.

As a clinical guide in cases of established psychoses, we doubt very much whether there has been published in recent years anything so rich in commonsense and practical wisdom, and as such it can be thoroughly recommended to the practitioner. From this aspect there is not only nothing of importance missing, but there are observations of great value that we have not found in any text-book.

Particularly fine chapters are those devoted to the "borderland" and mental deficiency. The former includes an adequate section on the anomalies and perversions of the sexual instinct—a subject so meanly treated in most text-books. The latter chapter should be read with Appendices B and C on "Mowgli" types or "wild" children and the cases of Laura Bridgman and Helen Keller respectively.

The author in his observations on encephalitis lethargica omits to mention the difference between the bad behaviour of the post-encephalitic boy and that of the morally defective—the impulsive response to immediate environment associated with a total absence of fear of consequences in the former and the usually premeditated and cunning mischievousness of the latter.

The chapter on the pathology of mental disorder, apart from some statements which seem to us astonishing in the year 1928, is distinctly good as far as it goes. The subject is also touched upon here and there in the clinical chapters, especially those on mental disorders associated with organic diseases of the nervous system and with bodily diseases.

The so-called stigmata of degeneracy are amply described. It should be noted that they are usually absent in the evolutional, but are characteristic of the devolutional mental defective, and suggest endocrine anomalies and deficiencies which may not be innate or hereditary in origin.

The chapter on general treatment is distinctly original and is a fine bit of writing. It commences with the postulate, "If mental disorders are dependent upon cerebral changes—either primary or secondary—and are thus merely a part of bodily diseases and disorders, there is no warrant for regarding their treatment as something quite apart from general therapeutics." This is the

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key-note of the whole chapter, which is adequate for practitioners who have to treat well-established cases of mental disorder.

Much wisdom and practical direction is to be found in the section dealing with prophylaxis, but general practitoners need, in addition, guidance regarding the treatment of early cases and the mental aspect of ordinary physical illnesses. Effective treatment in these great fields of prophylaxis is the great problem which sooner or later the general practitioner has to face. He will find little or no help in this book because of the author's declared scepticism regarding psychotherapy, and, in fact, all matters psychological.

Dr. Norman has written a singularly attractive book, which is enriched by a chapter on "Clinical Types in Life and Literature"—a subject which he has made familiar to readers of the Journal. Needless to say he has not lost his racy, inimitable style, with a pungent reference here and there to show that he is really serious in what he writes.

His challenging statements have drawn from us a long review, perhaps not without its interest to students and junior psychiatrists. We do not regret the time so spent, but we mention it as evidence of the stimulating character of the book, which should all the more recommend it to our readers. J. R. LORD.

L'Enseignement Psychiatrique d'Adolf Meyer. Par le Dr. HENRI FLOURNOY. Extrait des *Archives de Psychologie*, September, 1926, xx, p. 78.

This article is an admirable summary of the psychiatric teaching of Prof. Adolf Meyer, Director of the Henry Phipps Psychiatric Clinic of the Johns Hopkins University. Dr. Flournoy, who worked for a time at Baltimore in Meyer's clinic, is well qualified both by training and clarity of style for the task he has undertaken.

Dividing the subject into four parts, namely, "The Biological Viewpoint in Psychology and Psychiatry," "Psychiatric Classifications and Diagnoses," "The Dynamic Interpretation of Dementia Præcox" and "Practical Applications," Dr. Flournoy begins with a brief statement of Meyer's philosophical approach to the study of mental illness. In view of his extensive early training in anatomy and neurology, two of the most scientific branches of medical knowledge, Meyer's emphasis on the psychological aspect of the factors concerned in producing mental disorder is all the more noteworthy. Nevertheless, Meyer avoids the Scylla of extreme introspection, and steers clear of the Charybdis of Watsonian behaviourism, by using his two fundamental and closely associated concepts—those of integration, and of the psycho-biological position of the individual. According to the first of these, the individual as a functioning unit is more than the sum of his parts; he is a hierarchy of organs and their functions, and at each step in the hierarchy, *i.e.*, each level of integration, something new emerges—some function or functions which are not present in the separate

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members of which the given level is composed, just as the properties of water are more than the sum of the properties of oxygen and hydrogen. The highest level of all in the hierarchy is the mental one, which is the complete expression of the individual as a whole. The old unnecessary dualism of body and mind is thus avoided.

But an individual and his functions have no meaning apart from the environment in which he lives; all are also functions of environmental adaptation. The mental are simply the most complicated of these adaptive functions. This is a concept which transcends both behaviourism and introspective psychology, for it requires and includes them both. The peculiar importance of the mental functions lies partly in their symbolizing capacity; by their means certain environmental facts are represented in consciousness, independently of their immediate presentation to the senses, and are thereby enabled to influence conduct. The entire psychological viewpoint is thus a dynamic one—dealing as it does with mental processes as active factors in an individual's adjustment to the environment. Hence the methodical examination of any psychiatric case must include an investigation of the subject's circumstances, not only at the present time, but from his infancy upwards, and of the manner in which he has coped with them (the "life-record"). In this way one can discover the subject's assets as well as his deficiences; and there is much less need to talk vaguely of "constitution," since by the means employed there is obtained a host of concrete facts. Nor is there any need at all to resort to what has well been called a "brain-mythology" to account for certain mental events, by introducing a "tautologizing neurology," which implies that to deal in mental terms is unworthy, and that it is preferable to use instead any kind of neurological analogy as if it were an explanation and not indeed a fantastic parallel. Similarly, the willingness and even the eagerness exhibited in some quarters to attribute, without considerations of relevancy, the entire clinical picture to some minute cortical change, is still too prevalent to-day. Furthermore, the psycho-biological concept recognizes no opposition in "organic" and "functional"; mental disorders are regarded as functional in the sense of a disorder in the performance at the highest level of an organism which is compounded and integrated of organs and their functions. Where an interpretation in organic terms will fit the clinical facts, as in general paralysis, it is superfluous to give to the mental symptoms any but secondary weight; one must be prepared to have several modes of approach, emphasizing the one that goes to the root of the matter in a given case. But it is a mistake to use general paralysis, as Kraepelin does, as a paradigm for mental disorders in general, and to study mental abnormalities as if they were symptoms of some hypothetical malady. On the contrary, the mental symptoms are an integral fact of the morbid process; the mental content, in the psychoneuroses, for example, *is* the morbid process. Even in general paralysis, it can be shown that the mental symptoms are not adventitions, but, as in schizophrenia, are directly dependent on the kind of mental "make-up" or "personality" that characterized

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the patient all his life, before any actual mental disorder was recognized in him.

While recognizing the essential similarities of psychoses and psychoneuroses, Meyer deprecates regarding the latter as minor forms or "formes frustes" of psychoses, and which may become psychoses. The psychoneuroses have sufficiently distinctive characteristics to merit a place by themselves.

Fundamentally Meyer is against the excessive straining for classification that characterizes some of Kraepelin's adherents, resulting in a change of diagnosis from "dementia præcox" to "manic-depressive insanity" if the patient should happen to recover. We must always study facts; they must be sorted out —not the patients; we must discard the notion of "one patient, one disease," as if each individual could display only the symptoms belonging to a certain arbitrary syndrome. Nevertheless a provisional classification is justifiable, if the reservations mentioned are borne in mind and it, instead of disease-entities, one speaks of "reaction types." Of these Meyer distinguishes six principal groups: (1) Anergastic (ergasia = performance or behaviour), the result of acquired organic defect; (2) dysergastic—delirious-hallucinatory, of toxi-infective origin, etc.; (3) parergastic—certain reactions of projection, reference, catalepsy, hallucinations and the like, as in schizophrenia and paranoia; (4) thymergastic—affective disturbances, consisting in simple affective excess or diminution, without archaic characters, and exemplified principally by manic-depressive disorders; (5) merergastic—partial activity disorders, in the form of psychoneuroses; and (6) oligergastic, comprising the developmental defects (idiocy, imbecility and the like).

Perhaps the most interesting and fruitful application of the dynamic psycho-biological viewpoint is found in Meyer's analysis of dementia præcox. This condition (for which at present he prefers to use Bleuler's term "schizophrenia") he regards as the result of a long-continued series of maladjusted reactions to environmental and inner stresses. The individual concerned, instead of facing his problems squarely, shirks them and adopts subterfuges ("substitutive reactions"), like amnesia, fault-finding in others, day-dreaming, prayers and other expedients. These subterfuges unfortunately tend to gain an automaticity of their own; they become more easily resorted to (habit-deterioration) and ultimately more or less uncontrollable. The fact that the onset of a schizophrenic psychosis may be sudden is not against this view; the suddenness is equivalent to the rupture of compensation that may lead to the appearance of dyspnœa, œdema, etc., in a person whose damaged heart has hitherto performed satisfactorily. There is no question, on this view, of any specific disease-entity; each individual is a case by himself. This does not preclude general similarities that make it possible to speak of a group of people having certain morbid reactions in common as belonging to the schizophrenic reaction-type; some people tend to become mentally diseased, as others develop normally, along one or other of several lines. That there is no disease-entity to be called

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dementia præcox or schizophrenia is strongly suggested by the uncertainty in diagnosis shown, for example, in the Heidelberg Clinic, where the term "dementia præcox" was applied to 5% of the total admissions in 1892, to 51% in 1901, and had fallen again to 18% in 1907. Nor is the notion of inevitable dementia at all justified; it is merely that certain reactions are so pernicious as refuges that if they become habitual, a reversal to normal is hardly possible. The term "dementia præcox" should be reserved for patients in whom mental deterioration has become established.

From the "constitutional make-up" (a term preferable to "constitution," and signifying acquired as well as inherited habits of thought and action) the physician should endeavour to separate out the factors determined by heredity and development, and modifiable.

In examining any mental patient, it is essential to take careful cognizance of his previous personality, and so to discover his assets or "balancing-material"; for the prognosis depends as much, and probably more, on the pre-existing personality than on the actual symptoms. It is equally necessary to discover what the "setting" of his condition is, *i.e.*, the entire circumstances in which he lived and moved both before his symptoms declared themselves and during their onset. To take a very crude example: It is a vastly different and usually much less ominous matter if an uneducated negro complains that he has a snake in his inside than if a cultured white man does so.

The dynamic psycho-biological hypothesis of the psychoses has met with antagonism based partly on the obligation which the hypothesis lays on the doctor, to scrutinize minutely the life-history of the patient. It is much easier, both in investigation and treatment, to talk airily of some "endocrine disorder" and to prescribe some tabloid. Secondly, it is customary to speak of certain habits as symptoms, *e.g.*, masturbation, and to discuss them as such, without troubling to inquire what their precise and detailed significance may be. Thirdly, many cases of dementia præcox proceed to their disastrous demented end, or undergo spontaneous remission, independently of the measures employed. But this fact, which is invoked in favour of a fatalistic theory, may depend upon our ignorance of the psycho-pathological material involved. The first objection arises from the traditional opposition of organic and functional, which, in the psycho-biological conception, is a fallacious one. The psycho-biological conception of schizophrenia is no more invalidated by the discovery of organic signs in some cases, than the morbid-anatomical explanation of general paralysis is vitiated by the presence of mental symptoms in all its instances.

Meyer's conception is, in short, a comprehensive pluralistic one. It is biological and takes account of make-up, both in its inherited and acquired aspects, of the "setting" and of the complexity and multiplication of causes ("constellation" of the illness). It seeks to ascertain facts and to work with them, and to be sparing of hypotheses.

The fourth and final section of Flournoy's survey concerns

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the organization of the Henry Phipps Psychiatric Clinic of the Johns Hopkins Hospital. It has the inestimable advantage of being an integral part of a great general hospital, situated in the same grounds as the other hospital buildings (cheek by jowl, in fact, with the Children's Clinic). This arrangement serves to remove whatever "stigma" is attached to mental illness, and the staff have the immense stimulus of constant contact and interchange of views with their colleagues in other divisions of the hospital. The Clinic is so arranged that access to it is as free as to any section of the hospital, and all the patients are voluntary. The nursing staff is recruited periodically from that of the general hospital. A daily "behaviour chart" of each patient is kept by the nurse in charge. The Clinic has but 90 beds, although it serves a population of 700,000 in Baltimore itself, and receives cases from all over the United States as well. The admissions total about 400 in a year. But the object of the Clinic is the intensive study of a few cases, not the formulation of diagnostic opinions on large numbers. In psychiatry, of all branches of medicine, it is the painstaking and accurate investigation of the individual patient that counts. R. D. GILLESPIE.

Les Syndromes Mentaux. Fascicule 1: *Les Syndromes Confusionnels.* Par A. POROT. Paris: Gaston Doin et Cie, 1928. Medium 8vo. Pp. iii + 370. Price 55 fr.

This is another volume in the series entitled *Bibliothèque des Grands Syndromes*, of which a previous number, *Les Syndromes Nevropathiques*, was reviewed in this Journal in October, 1927. The stated object of the series is to provide practical clinical accounts of the syndromes dealt with, avoiding as far as possible all theoretical speculations. It is obvious that, of all forms of mental disorder, confusional insanity can best be dealt with in this way. The author, however, does not hesitate to express his views on controversial points.

The plan of the book provides first a general study of mental confusion, its mental or physical symptoms, clinical forms, course, sequelæ and diagnosis; next a series of chapters on confusional states grouped according to origin (infectious, toxic, auto-toxic or nutritional, puerperal, endocrine and vegetative, encephalopathic, traumatic and commotional, and psychogenic), and finally a chapter on treatment.

It is impossible to summarize a work such as this, but some of the author's points, especially those of topical interest, may be picked out.

The author's general view of confusion is that it is essentially an acquired pathological condition, not always infectious in origin, nor even necessarily with an organic basis. The mental symptoms may be grouped under the headings of clouding of consciousness and dream-like automatism; to the latter belong hallucinations, fragmentary delusions, or abnormal suggestibility. Among the

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physical symptoms, the occasional occurrence of epileptiform convulsions—even of *status epilepticus*—is mentioned. Signs of renal and hepatic insufficiency are stressed. The partial suppression of urine during the course of the illness is succeeded by a polyuric crisis of favourable significance. A variety of clinical types is recognized, among them being an acute katatonic, and an acute paranoid form. Pseudo-paretic types are mainly due to alcohol or to malaria.

The sequelæ of acute confusional attacks, and the chronic forms of confusion, receive much attention. The former include delusional states, anxiety, general increased sensitivity (mental anaphylaxis), and hysteria. The author quotes O. Dumas's observation that "some patients remain amnesic because they do not know that they have regained their memory." The chronic forms often simulate one or other of the true insanities and may even end in dementia. Some cases of dementia præcox are of confusional origin. Hence diagnosis of the less acute confusional states is apt to be difficult. The affective state in melancholia, apathy or indifference with normal instinctive life in dementia præcox are the criteria most relied on.

In acute infections it must be remembered that mental confusion may be an initial symptom. A special syndrome occurring during convalescence, especially after pneumonia, is named "meta-infectious delirium." It depends on a recrudescence of the infective process, involving the brain, and is of grave prognosis.

Acute delirium is the subject of a particularly vivid clinical description, and it is pointed out that an attack may be cut short by colloidal shock treatment.

With regard to septic states, the importance of mental symptoms in revealing latent sepsis is recognized, and the author lays stress on latent sinusitis or dental infection as causes of confusional states. Among chronic infectious diseases, malaria is described at length from the author's extensive experience in Tunisia.

The author's views on syphilitic psychoses are of importance. He holds that there exist acute psychotic states depending directly on syphilitic toxæmia and occurring in the secondary or tertiary stages. In a number of cases these psychoses take a more chronic course, leading to pseudo-dementia, with hebetude or stupor. These cases can only be distinguished from true general paralysis by their response to energetic anti-syphilitic treatment, which produces a rapid clinical improvement, while the pathological changes in the cerebro-spinal fluid also tend to clear up.

The description of the alcoholic psychoses is particularly clear and detailed. Only two points can be mentioned here: the author's special syndrome, occurring in women between the ages of thirty and forty, of cirrhosis with splenomegaly, severe peripheral neuritis and confusion, running a rapidly fatal course; and the recognition of pure hallucinatory psychoses, continuing for years without leading to the formation of delusions.

In discussing puerperal states, a warning is given regarding the prognosis in puerperal melancholia. After perhaps months of mild

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depression, an acute confusional attack may burst out, which may even go on to acute delirium. In these cases there is usually an unrecognized genital infection.

The author is distinctly guarded in discussing psychoses due to endocrine disturbance, and only well-defined endocrine disorders are included.

Epidemic encephalitis receives comparatively little attention. The protean nature of the acute stage is emphasized, but chronic encephalitis is dismissed in a few lines.

In dealing with mental disorders following on head injuries, the author agrees with the general view that the site and extensity of the injury are of little importance. The symptoms depend mainly on the "commotional" factor, and in many cases there is, to a varying degree, an "emotional" factor as well. Mental confusion may also be purely psychogenic. Confusional episodes are especially common in anxiety states, and the acute phase is then followed by a chronic condition of asthenia, with depression, hypochondriacal or obsessive ideas, and emotional instability. These symptoms are not regarded as forming part of a hysterical syndrome, but form a favourable basis for the development by suggestion of the physical manifestations of true hysteria.

Finally, in the chapter on treatment, the most interesting feature is the author's description of colloidal shock therapy. This is specially indicated in confusional attacks of non-specific origin, with a latent septicæmic basis, and in acute delirium. The method consists in massive intravenous doses (40–50 c.c.) of the colloidal silver preparation known as electrargol. Rapid rise of temperature with restlessness are the indications for intervention, and the treatment should be continued energetically as long as these symptoms tend to recur.

The book is illustrated by temperature charts and a small number of photographs; that showing a ward designed for the treatment of confusional and other acute mental states is especially interesting. The work is a comprehensive account of a large group of mental disorders, and will be found of great value for reference.

A. WALK.

Le Syndrome Maniaque. Par R. DERON. Paris: Gaston Doin et Cie, 1928. Medium 8vo. Pp. v + 359. Price 55 fr.

Although this book is included in the *Bibliothèque des Grands Syndromes*, it is not a companion volume to Dr. Porot's work, and its scope and purpose are entirely different. It is a discussion on the symptomatology and nosology of mania, and the author's object is to elucidate the nature of the atypical and so-called mixed forms, and to combat the Kraepelinian conception of manic-depressive insanity.

In a foreword, Dr. Séglas, of the Salpêtrière, under whom the author has worked, makes some judicious remarks on the artificiality of schemes of classification based on the time-honoured

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three-fold division of the mind. He points out that the conception of "mixed states" depending on the possible permutations or combinations of three independent factors does not correspond with clinical facts, and further that a dynamic rather than a static point of view is necessary in the study of individual patients.

In the body of the work, Dr. Deron also quotes Séglas and an older authority, Falret, on the need for the study of the individual personality of patients. But the author shows no evidence of having studied his cases from this point of view. Throughout the book he remains entirely at the descriptive level. The cases are all presented as they appear in the course of a fully developed psychosis, and nowhere is there a hint of the meaning of their symptoms in relation to their life-history.

Nor has Dr. Deron freed himself from the limitations imposed by the assumption of fixed divisions of the mind, which vary as units. In place of the three units of disturbance of thought, of mood and of volition, he gives five groups of symptoms: disturbances of the affective state, of expression, of ideation, of speech, and of activity. He regards atypical states as due to dissociation of the maniacal syndrome, there being either a predominance of the symptoms of one group, or else a relative deficiency or degradation of one or more groups. Thus maniacal states showing four, three, two or one symptom-group are described. Such a scheme is obviously as artificial as the one it is intended to replace.

The greater part of the book is occupied by a clinical description of maniacal states, and there can be no doubt of the author's power of vivid description, or of the truth of his observation.

Mania is defined as a syndrome characterized by defect of voluntary attention; the other symptoms are regarded as consequent on this primary defect. The peculiar feature of the affective state of the maniac is not so much excitability as instability.

In dealing with hallucinations, the author points out the frequency of apparent hallucinations, in which sensory vividness is given to the inner language of thought (hyperendophasia). Patients carrying on a playful dialogue may also mistakenly be thought to be hallucinated. Similarly, a supposedly deluded patient may merely be play-acting, and his so-called delusion may be a piece of conscious make-believe.

Much attention is given to forms of mania which take on a particular character due to their being superimposed on a fundamental abnormality. Two types are described—the mania of degenerates or hysterics, and the mania of the feeble-minded. The first may take a course identical with what is described in Dr. Porot's book as "psychogenic mental confusion"—a term against which the present author protests. In the feeble-minded the symptoms tend to be without any "intellectual" character, psycho-motor disturbances being alone present. The frequency of katatonic symptoms is emphasized. It is difficult to accept the existence of another form of atypical mania, which the author calls "manie béate," and in which there is a state of placid satisfaction with a minimum of external manifestations. The case

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described, which ended in unexpected suicide, must have had at least a large schizoid element.

Following the traditional French grouping, the various forms of intermittent or alternating insanity are separately described. Place is given to the view, made familiar by Binet, and more recently by Tastevin and Benon, opposing melancholia, a separate disease, to asthenia or apathy, the counterpart of mania in alternating states. Further, short periods of depression following on maniacal attacks are regarded as being due to exhaustion rather than as constituting a true depressive phase.

The chapter on diagnosis is perhaps the most valuable in the book. The discussions on symptomatic katatonia and on the significance of delusions are particularly useful. The differential diagnosis of excited states associated with cerebral syphilis comes under review; the author takes up a rather agnostic attitude to the question of the relation of general paralysis to other forms of cerebral syphilis and to the psychoses. Neither the neurological signs nor the serological findings are absolute criteria, and the therapeutic test is also liable to fallacies. There is also a short discussion on the delimitation of dementia præcox and mania; the view adopted is in accordance with modern tendencies in distinguishing between dementia præcox on the one hand and schizophrenia on the other; the one is probably a terminal state which may be the outcome of a variety of disease-processes, the other a purely psychological conception not connoting any particular prognosis. It is agreed that in the earliest stages of a phase of excitement there is no sure sign by which a benign mania may be distinguished from a malignant dementia præcox.

Finally a chapter is devoted to a more specific criticism of Kraepelin's conception of manic-depressive insanity as a disease entity. There are, in the author's opinion, no common psychological characters in mania or melancholia; pure attacks of both forms are relatively common; and the similarity of prognosis is an unsound basis for the inclusion of various syndromes in a single disease-entity. The author concludes that the older terms—intermittent insanity, circular insanity, etc.—may well be retained.

At the present time there would appear to be a general tendency to abandon the Kraepelin scheme, under which the great mass of psychotic states form part of one or the other of two great disease-entities. But this revolt is directed against all schemes of classification in which patients are labelled with specific disorders for which specific causes are sought. To speak of syndromes rather than of diseases is at least non-commital; but it may be doubted whether anything is gained by parcelling out the psychoses into a number of syndromes of limited scope, as long as these are made to depend on the nature of "attacks" of insanity, and take no account of the individual's life as a whole. A. WALK.

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Les Rapports des Langages Néologiques et des Idées Délirantes. Par le Docteur G. TEULIÉ. Paris: Auguste Picard, 1928. Roy. 8vo. Pp. 165. Price 25 fr..

In 1905 Trénel pointed out that neologisms mean more than the mere invention of words; that in some cases inventions occurred in the syntax, whilst in others inventions occurred in both words and syntax. The author has adopted Trénel's classification. Neological speech consists in the exaggerated use of neologisms, so that neologisms and neological speech are merely different degrees of one and the same phenomenon. They are met with in the same type of patient (chronic delusional and the paranoid form of dementia præcox); they can be divided into the same classes; they present the same clinical characters; they are the result of the same pathogenic mechanism; and the prognosis is equally bad in both cases.

(1) *Pseudo-incoherent speech.*—Here the words are grouped together in sentences according to rules of syntax invented by the patient. His language appears to be incoherent, whereas in reality he is simply employing his own syntax. Examples of this type are the speaking of oneself in the third person singular or in the plural, and the suppression of categories of terms—articles, nouns, verbs, etc.

(2) *Glossomania.*—In this type the vocabulary is modified. The characteristic feature of glossomania is a play on words or syllables. Thus the patient may repeat a long series of similar sounding words or syllables, or he may pour out long lists of words beginning with the same letter or syllable. The words and syallables, as a rule, have no apparent meaning, and are absolutely incomprehensible to the listener. Under the influence of his delusions the patient sometimes imagines he is talking some foreign language.

The patients of this class all show chronic delusions—as a rule of the grandiose variety—with the following characteristics: (*a*) little tendency to systematization, (*b*) absurdity, and (*c*) variability. They present a certain degree of mania, being euphoric, self-satisfied and glad to show off their talents and their knowledge.

(3) *True glossolalia.*—In this type new words are coined, which always have the same significance, and are related to each other according to the patient's rules of syntax. Usually the number of words invented is not great, and the grammatical and syntactic rules are borrowed from languages with which the patient has been acquainted. One of the great differences between true glossolalia and glossomania is the constancy in the meaning of the words used in the former, whereas the glossomaniac frequently uses different words to express the same object—he creates words according to the inspiration of the moment.

True glossolalia is invariably associated with the paranoid form of dementia præcox. The delusions are poorly systematized, absurd and polymorphous. They are evolved out of phantasy-formation. The patient, having progressively detached himself from reality, feels the need of compensation. He therefore

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creates a world of his own in which he himself usually figures as the hero. This is the origin of his delusions of grandeur. He imagines he is a scholar, a saint, a superman. His acquaintance with languages and with mysticism may lead him to believe he is able to speak a language unknown to others; this belief helps to convince him that he is unique. The influence of delusions secondary to phantasy-formation thus becomes apparent in true glossolalia.

Education has little influence in the causation of pseudo-incoherence, as it develops in the illiterate quite as often as in the highly educated individual. On the other hand both glossomania and true glossolalia are, as a rule, found among patients whose education has reached a fairly high standard. The author has found that these patients are frequently able to speak other languages than their own, and it is owing to the fact that the patient has a particular inclination and sometimes a real aptitude for expressing himself in more than one language, that he feels impelled to employ some langauge other than those with which he is already acquainted. The author insists that chronic delusions are the fundamental cause of all three types of neological speech. Next in importance he places mental excitement, though this is least in evidence in true glossolalia.

Dr. Teulié has carefully sifted the evidence of previous writers on the subject, and made an exhaustive analysis of cases under his own observation. The book is an important contribution to psychiatry and should be of great practical value.

NORMAN R. PHILLIPS.

Psychophysiologie et Psychopathologie du Corps Thyroïde. Par le Dr. A. SICCO, Professeur de Psychiatrie a la Faculté de Médecine de Montevideo. Paris: Librairie Félix Alcan. Crown 8vo. Pp. 100. Price 10 fr.

Dr. Sicco's instructive little book is a valuable contribution to the Félix Alcan series. Its hundred pages contain much of the recent work on the ductless glands. Throughout, his viewpoint is typically Gallic, in that he endeavours to correlate psychological processes with their physiological equivalents. Such works are valuable as a corrective to those publications which neglect the physical processes of mind.

The book commences with a *résumé* of glandular activity in relation to pathological conditions. The writer then proceeds to a detailed account of thyroid function, the *rôle* it plays in fœtal life and later, in the growth of the individual, and its effects on the psychic life and the instinctive reactions both in the normal and abnormal. English writers will not have much difficulty in accepting the majority of the premises put forward; one statement, however, appears contrary to neurological teaching in this country, for on p. 30 we find an allusion to the sympathetic supply of the brain.

The last twenty pages are devoted to case-histories, with

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painstaking descriptions of the hypo- and hyper-thyroid states, treatment and results.

The author concludes his book with an extensive bibliography of modern French research in the realms of endocrinology and biochemistry. D. N. HARDCASTLE.

Les Obsédes. Par RAYMOND MALLET, Ancien Chef de Clinique à la Faculté de Médecine de Paris. Paris: Gaston Doin et Cie, 1928. Crown 8vo. Pp. 100. Price 12 fr.

Dr. Séglas, of the Salpêtrière, has written a preface to this little book, in which he says that it is always difficult for one who knows a complicated subject in all its details to write "un résumé clair, net, succint et cependant complet." We can certainly agree with him that Dr. Mallet has done well in the task.

The book is an epitome of the French view of the obsessional neuroses. The author takes his standpoint from that of Morel, amplified by that of the more modern French psychiatrists. Mention is made of the work of Freud, but the writer considers its value nullified by the insistence upon the sexual origin of obsessions; he also points out that Janet preceded Freud in suggesting a sexual significance for the psycho-neuroses.

Twelve detailed case-histories are given illustrating the various obsessional states; the physical concomitants are described and the heredity indicated in each case. The author points out that the reflexes are usually exaggerated, but that the physical condition in general does not tally with the sensations experienced by the patient. The make-up of the obsessional patient is described in detail; he has feelings of physical illness, of moral insecurity, and of intellectual impairment. There may be doubling of the personality, and pseudo-hallucinations may occur. The family history is usually found to be bad, and the patient has manifested signs of mental trouble in childhood.

These obsessional patients are contrasted with the psychotics, particularly with the melancholics and schizoids, and the question whether an obsessive state can be a prelude to a true psychosis is discussed. It is shown that while the obsessional patients have not lost touch with reality, it is their constant fear that they may do so. Dr. Mallet is careful to explain that the hallucinations are pseudo-hallucinations, the patient realizing their nature, and herein differing from the paraphrenic. The obsessional patient suffers essentially from a disorder of emotion rather than from one of the will or the intelligence.

Dr. Mallet considers that obsessional cases have a psycho-physical origin, the psychic side arising from some shock or disturbing experience in earlier life, the physical depending upon various factors, such as heredity, toxæmia, nutritional disturbances, or lack of endocrine balance. D. N. HARDCASTLE.

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Nervenkrankheiten und innere Sekretion (*Nervous Diseases and Internal Secretion*). By Drs. F. PINELES and H. SPOTZER. Halle, 1927. Pp. 60.

The authors pass in review the opinions that are being held by different investigators on the influence of the various endocrine secretions in certain nervous disorders, *e.g.*, myxœdema, exophthalmic goitre, tetany (spasmophilia), pituitary and pineal affections, Addison's disease, neurasthenia (cardiac neuroses), hysteria, epilepsy, vasomotor trophic neuroses, bronchial asthma, paralysis agitans, Wilson's disease, chorea, myasthenia, etc.

A. WOHLGEMUTH.

Psyche und innere Sekretion (*Mind and Internal Secretion*). By Dr. O. KLIENEBERGER. Halle, 1927. Pp. 76.

"The relations of the endocrine glands to the psyche are numerous, manifold and important, the relations of the psyche to the endocrine glands greater and more powerful." With this opening sentence of the preface the author states the general trend of his paper. Psychic disturbances with endocrine disease are discussed first. Psychic infantilism is almost always present in cases of arrested pluriglandular development, described as infantilism. The psychic disturbances invariably found with ennuchoidism are discussed; also those encountered in cases of osteomalacia and with the hypo- and hyperfunctions of the thyroid (Basedow's disease, congenital myxœdema and cretinism), spasmophilic conditions and tetany, diseases of the pituitary and the pineal and of the adrenals. The second chapter deals with endocrine disturbances in cases of psychoses: congenital imbecility, senile decay, manic-depressive insanity, schizophrenia and epilepsy. The third chapter is devoted to the psyche and the internal secretions in physiological phases of life: puberty, menstruation and menopause.

The following chapter deals with considerations arising from the preceding paragraphs. The concept of "constitution" is considered. The smallest change from within, the smallest influence from without, may cause changes, under certain conditions even disturbances, in the hormone equilibrium, may inhibit or reinforce psychic processes, determine affects, and finally lead to psychotic disturbances. Whilst fully appreciating the importance of the endocrine apparatus and the vegetative nervous system the paramount importance of the brain remains manifest. With disease of the endocrine glands nervous disturbances are the rule, but distinct psychotic disturbances rare and not characteristic. The author holds that the primary seat of the psychosis is to be looked for in the brain, and that pluriglandular bodily symptoms are consequent phenomena. The brain occupies the dominating position; it is not only the organ of the psyche, but the central organ for the whole organism. Hence the importance of psychic processes for the organism. Interesting examples and experiments are referred to in the next chapter entitled "Results." Psycho-physical interaction and psycho-physical activity are also discussed.

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A final chapter is given to therapeutic consideration, including psychotherapy. A copious bibliography of well over two hundred references terminates this interesting monograph.

A. WOHLGEMUTH.

Pönologische Betrachtungen (*Penological Reflections*). By A. AMSCHL. Monograph No. 6 in *Abhandlungen aus dem juristisch-medizinischen Grenzgebiete*. Vienna, 1927. Pp. 80.

This is the sixth monograph in this very interesting series of forensic medical essays. The various chapters deal with crime and punishment; legislation, classification of crimes; system of and means of punishment; imprisonment; infliction of punishment in convict prisons; management of penitentiary establishments; increase of punishment and apportionment of punishment; ignominious punishment; safety measures. A. WOHLGEMUTH.

Okkultismus und Rechtspflege (*Occultism and the Administration of Justice*). By A. PILCZ. Monograph No. 7 in *Abhandlungen aus dem juristisch-medizinischen Grenzgebiete*. Vienna, 1927. Pp. 48.

This is the seventh in this series of forensic medical essays. The first part deals with the so-called occult phenomena in general. Telepathy and clairvoyance are discussed, and it is shown that there is not sufficient scientific evidence for their existence. Chiromancy, graphology and thought-reading are considered in turn with similar conclusions. The phenomena of spiritualism are examined and the author arrives at the conclusion that wherever the control arrangements were sufficiently adequate the wonderful phenomena recorded by previous witnesses either did not appear or the medium was caught cheating. With reference to the fact that some eminent men of science like Hyrtl, Pasteur, Pernter and many others believed in occult phenomena the author says: "We have here, so to speak, two *toto cælo* different psychic personalities in the same individual; on the one side the sober man of science following the laws of logic, living in the real world, thinking and acting adequately; on the other side the blindly credulous fanatic, shutting himself up deliberately from all logic, devoid of all critical faculty, but full of faith. We encounter here psychological mechanisms, known to the psychologist as "supervalent" ideational complexes. Where strongly affectively toned combinations of ideas are effective, where the emotional life is decisive, the purely reasoning activities of the psyche are stifled and the intellect dispossessed of its primacy by affectivity. . . . Occultism is a yearning of faith, a "Weltanschauung," disguised religiosity, that is, longing for the supernatural, unsatisfied by naked intellectualism." The second part of the essay discusses occultism in its relation to criminal and civil law, facts of fraud, evidence in questions of occultism, employment of telepaths and clairvoyants in criminal investigations, injuries to health, etc. There is also a short appendix on dowsing and a bibliography. A. WOHLGEMUTH.

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The Clinical Examination of the Nervous System. By G. H. Monrad-Krohn, M.D., F.R.C.P. With a Foreword by T. Grainger Stewart, M.D., F.R.C.P. London: H. K. Lewis & Co., Ltd., 1928. Fourth edition. Crown 8vo. Pp. xvi + 209. Price 7s. 6d.

In our October, 1926, number we reviewed, at some length, the third edition of this work, giving its history since its first appearance in 1921, and spoke of how the author has kept faith with his readers by not allowing his book to become out of date, but had taken the opportunity afforded by its popularity and consequent call for reprints to revise the text carefully, and make wise additions of new matter reflecting the advances made since the previous edition.

It is on the same grounds that we welcome the fourth edition. The text has once more needed but little revision, which shows the care and foresight expended when it was first drawn up and the wisdom displayed in the choice of new matter. It is satisfactory to note that the author has substituted "mental state" for "cerebration."

The additions in the fourth edition and some re-arrangement here and there in the text have increased the number of pages by eight. A new section for beginners has been included on the interpretation of X-ray pictures of the skull, with two plates showing the dislocation of the pineal shadow to one or other side in cases of cerebral tumour. Another new plate added illustrates the effects of spinal tumour.

The author has recognized the diagnostic value of estimating the amount of chlorides in the cerebro-spinal fluid by including Buzzard and Greenfield's method of quantitative estimation—a raised percentage being indicative of renal insufficiency, and a slightly lowered one indicating an acute general infection or slight meningitis. In cases of general paralysis there is no doubt that the amount of general infection present has an important bearing on the results of malarial treatment.

We are glad to see that the author has retained the section on the first routine examination. We consider it a valuable key to the book, especially in psychiatric cases.

Since the publication of the third edition Prof. Monrad-Krohn has been elected F.R.C.P., an honour well merited, and which is an additional tie between him and the County of London where he gathered much of his early experience of neurology and psychiatry.

J. R. Lord.

Mind and Personality. By William Brown, M.D., D.Sc. University of London Press, Ltd., 1926. Pp. x + 344. Price 12*s.* 6*d.*

This book is described as "An Essay in Psychology and Philosophy." The aims of the author, as given out on the jacket and in the Introduction, are "to obtain a synoptic view of the personality," and "to consider the unity of the mind from every point of view." The synoptic view is weak on the æsthetic side. The book is really

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a collection of papers which have appeared in various journals. Several chapters read like a verbatim report of an unprepared lecture.

Dr. Brown's views on psycho-analysis frequently recur. He avoids the full application of the psycho-analytic theory by a re-formulation of the theory in his own words, or by a retreat into the realm of philosophy. Philosophy deals with intuition, genius, eternity, immortality, truth, beauty, goodness, personality, and God. His view is that science (including psychology and psycho-analysis) has no business to invade this sphere.

While the author is describing the views of other psychologists, though not particularly accurate, he is scrupulously fair in his efforts to give a true account of the views of others. But when he comes to such topics as Bergson, timelessness, philosophy, mysticism or religion, one feels that his heart is in the business; he becomes a writer with something to preach. Indeed, his style savours sometimes of the pulpit. Ethical problems predominate. One feels as if he were exhorting us to seek our personality in the timeless realm beyond the reach of scientific psychology. Those who are more interested in scientific method would fare better elsewhere.

The chapters on psycho-pathology, particularly Chap. XIII, "The Early Treatment of Mental Disease," are not without suggestive value to practitioners.

Dr. Brown's views on personality are best found in the last three chapters on mysticism, personality and value, and survival after death.

Other topics are the relation of mind and body, McDougall's theories, instincts, emotions, volition, mathematical ability, child-psychology, the philosophies of Plato and Aristotle, suggestion and hypnosis, and suggestion and faith. H. D. J. W.

An Experimental Study of Affects and Associations due to Certain Odours. By J. H. KENNETH. Psychological Review Publications, Psychol. Monographs, No. 171, 1927, pp. 64.

An experimental study of affects and associations produced by certain odours is interesting, but it is to be regretted that in this monograph fuller advantage was not taken of this opportunity of investigation, and that the research was not planned on more thoroughly scientific lines. Odorous substances (osmyls), twenty-six in number, but of unstated strengths or concentrations were used with 63 subjects. It seems, however, that there was no systematic procedure, and the reaction time was taken only in a few instances. Further there were, so it appears, no proper introspections and no records of these. The author appears to have made a study of the literature on odours, but to have neglected that on feelings. To record the feelings in four categories only is certainly unsatisfactory, for " entirely pleasant," " not entirely pleasant," " entirely unpleasant," "not entirely unpleasant," and excluding negative experiences, does not allow of a sufficient expression of the affective

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side of the experience. A study of the work done on the feeling-elements would probably have enabled the author to avoid many of the shortcomings of the present investigation. Much space is taken up with tables, but they do not afford much information. On p. 35 there appears the paradoxical statement that "unpleasant odours may appear faint enough not to be unpleasant," and on p. 36 it is put forward tentatively as an *explanation* that two subjects who found amyl alcohol, asafœtida and valerian pleasant were red-green colour-blind.

The following two instances given in the monograph appear to be of special interest to psycho-pathology: "The scent of rose oil recalled in subject No. 1 the smell of burning and a serious motor car accident in which he had received an injury causing atrophy of the optic nerve of the left eye. The content of this associative reaction was extremely large and recalled the accident which had occurred nine years previously with such vividness and intensity, that the rose affect was completely swamped. There had been a garden with roses in full bloom near the scene of the accident, as the subject remembered on introspection, but not before. It was thought at first that the accident had caused a parosmia; however, this was not the case." The second instance is this: "In 1922, one of the subjects was given some camphor to smell. He immediately felt mentally distressed and visualized at first the door of a wardrobe, then the entire wardrobe, then the emotion of fear at being suffocated or being in the dark, remembered kicking and hammering at the door to be let out. It was as if curtains had been drawn aside and revealed more and more of the view. At the same time the subject showed a marked psycho-galvanic reflex, the galvanometric deflection being right off the scale. The camphor stimulus had been present with each breath during this act of punishment for a youthful misdemeanor, a scene that could be dated as having taken place in 1892, and which had not entered consciousness since. The subject now associates camphor with blankets, moth-balls, various wardrobes, articles of clothing, etc. The affective judgment was given as + — (*i. e.*, not entirely pleasant) throughout."

The two instances just quoted have a much greater importance than the author imagines, inasmuch as they are examples of what the reviewer has called the "transfer of feeling" (and which he now recognizes as but a specific case of Pavlov's conditioned reflex). The transfer of feeling is defined as follows: If an experience A which is invested with a strong feeling-tone or an emotional colouring, is accompanied by another experience B, which is not so invested or coloured, then on future occasions when B is ekphorized it may be invested with the feeling-tone or the emotional colouring of A. This law affords a satisfactory scientific explanation of the origin of many phobias or other psycho-neuroses where recourse had been had previously to more or less mystical explanations.

A. WOHLGEMUTH.

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Animal and Human Conduct. By WILLIAM E. RITTER. London: George Allen & Unwin, Ltd. Demy 8vo. Pp. IX + 339. Price 15*s.*

This book is an interesting and vigorous attempt to close the gap between our knowledge of the activities of animals and that of our own activities, bodily and mental. This gap in knowledge is created, Prof. Ritter maintains, by our tendency to conceive of mind as belonging to a wholly different realm from that to which other phenomena of nature belong.

Starting, therefore, from a recognition of man as a part of nature, he discusses the problems of his origin and kinship, establishes his solidarity with the rest of the animal kingdom, and then proceeds to an analysis of animal activity with the object of providing a basis for comparative study. He recognizes two classes of activity, according as the result is harmony, life fulfilment, successful adaptation—or waste, injury, mal-adaptation. There follows a detailed study of the criteria of success. From this the author passes to a consideration of successful animal activity at the different levels of evolution represented by the reflexes, the instincts, and the various grades of intelligence, and then to a more extended account of mal-adaptive forms of conduct. These are studied as they occur in each of the principal orders of animals (insects, birds, mammals, the higher apes, and finally man), and shown to consist in waste of energy, time or useful materials, or else in injury to self or kind.

It is on this latter section of his book that Prof. Ritter appears to lay the greatest stress, believing that by thus tracing the underlying similarities between wasteful and deleterious behaviour in man and in sub-human forms, much knowledge of practical application to human problems may be obtained. The author is content to marshal his facts and bring forward his evidence without pointing any definite sociological moral, but his real interest and concern with the welfare of the human species is apparent throughout. The book as a whole makes interesting and stimulating reading, although perhaps too much space is occupied in establishing premises which the present-day reader would be disposed to grant forthwith.

D. M. WILKINS.

A Text-book of Psychiatry: For Students and Graduates in Schools of Nursing. By ARTHUR P. NOYES. New York: The Macmillan Company, 1927. Demy 8vo. Pp. xii + 333. Price 11*s.* net.

As will be seen by the title, this book is meant primarily for the instruction of general hospital nurses and does not include the nursing of the physically sick. It is not that the author thinks that mental nursing can be divorced from physical nursing—indeed he declares such to be as impossible as to separate mind from body. It is just a measure of expediency and to avoid duplication. He aims also to satisfy the requirements of the public health nurse and social worker in regard to a knowledge of mental disorders.

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The subject-matter of the various chapters is wisely selected and put with the conciseness of the experienced teacher, each chapter being concluded with a useful list of references, as is usual in American text-books. At the end of the book is a list of general references.

There is a good deal of clever writing in this book. The author's outlook is strictly biological, and the key-note of his treatment of his subject is struck in the following quotation:

"The habit of drawing a distinction between the body and mind should be discouraged. The mind is not a thing. It is one aspect of a biological organism, which is a unit and reacts as a unit."

Some prominence is given to the psychogenesis of mental disorder and Freudian teaching, and a whole chapter is devoted to mental mechanisms; this is admirably written, Bernard Hart's *The Psychology of Insanity* being one of the references given. On the whole, however, the author succeeds in avoiding a controversial attitude to any of the various schools of psychiatric thought. As the author declares, such would only lead to confusion on the part of the beginner.

Two points of general application should be mentioned. No clinical cases are inserted as types of mental disorders, and in dealing with each the nursing of it is the prominent feature. There is also a special chapter of 20 pages devoted to the care and management of the psychotic and a 9-page chapter to the nurse and her professional duties.

The final chapter deals with mental hygiene and social psychiatry, which is largely "child guidance."

As far as we can judge this book will meet the requirements of those who contemplate taking a University diploma in mental nursing. It meets admirably the purpose for which it was written; it can be read with profit by any mental nurse, and would form an excellent text-book for an honours certificate, say, of the Royal Medico-Psychological Association. Though not written for the medical officer, there is much in it of interest to him, for the more he knows of mental nursing the better both for the patients he has to treat and the nurses he has to instruct. J. R. LORD.

The Mind. By Various Authors. Edited by R. J. S. McDOWALL, D.Sc., M.B., F.R.C.P.E., with an introduction by ERNEST BARKER, M.A., D.Litt., LL.D. London: Longmans, Green & Co., Ltd., 1927. Cr. 8vo. Pp. xvi + 316. Price 8*s.* 6*d.* net,

This book comprises a series of lectures delivered in King's College, London, during the Lent Term of 1927, the object being to enlighten the public on the modern conceptions of mind from several academic standpoints. It is a symposium of teachers in special fields of knowledge, and can be likened to that made available to the public by Messrs. Blackie & Son in *Evolution in the Light of Modern Knowledge: A Collective Work*, one of the most fascinating publications of recent years on this subject.

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There is no doubt about the advantage this method has of presenting subjects on which there is no general agreement, and especially in regard to one so elusive as the mind. The question "What is mind?" has been asked and answered since the dawn of intellect down to now, yet the problem remains inscrutable, and such is the impression which this book gives.

The chief value of the book is that it conveys a warning to the student not to be too dogmatic about the nature of mind, and impresses on him that every conception of it has its uses and serves to illustrate and illuminate some department of knowledge. These conceptions are of many kinds, and the principal ones are dealt with in this book. Prof. McDowall, who suggested the scheme of lectures, is to be congratulated on his selection of view-points, and on his securing men of light and learning as expositors of the various subjects and their bearing on the main question.

Though we should like to see this book in the hands of every intelligent member of the public, we are more impressed with its value to students of psychology and psychiatry. Physiologists and medical students particularly would benefit from its study, if only as an antidote to the necessarily materialistic atmosphere in which they work. J. R. LORD.

Nursing Mental and Nervous Diseases: From the View-point of Biology, Psychology and Neurology. A Text-book for Use in Schools for the Training of Nurses. By ALBERT COULSON BUCKLEY, M.D. London: J. B. Lippincott Company, 1927. Demy 8vo. Pp. 312. 57 illustrations. Price 12*s.* 6*d.*

This is a notable addition to Lippincott's excellent series of nursing manuals, and the subject-matter has been in a great measure selected in conformity with the standard curriculum for training schools of America as revised in 1926. It is not likely, however, to be so widely read or so popular as the author's *The Basis of Psychiatry* (1920), for our Association's *Handbook for Mental Nurses* specially meets the requirements of the syllabuses of the mental nursing examinations of this country, except, perhaps, of those now being conducted by some of the Universities.

As regards psychiatry and psychology it is a shortened and simplified edition of the author's text-book adapted to the needs of the nurse. There is, however, much new writing. Theories and unsettled questions are avoided, and to the description of each mental disorder there is added a section dealing with "nursing care." In addition there is a special chapter devoted to mental nursing, special nursing procedures, occupational therapy, psychotherapy, psycho-analysis, suggestion and mental hygiene.

Nervous diseases form the subject of the last part of the book, in which the chapters are on the same plan as those dealing with mental diseases.

The Association's *Handbook* was critized before the Royal Commission on Lunacy and Mental Disorders as being too advanced, and

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containing much that it is not essential for a nurse to know. We demurred at this because the book was designedly on a high plane, for the very good reasons given in the report of the Committee which drew up the book under the chairmanship of Dr. Bedford Pierce. Though the book contains all the information necessary to pass the mental nursing examinations, it is also designed to be a complete guide to the nurse in her subsequent professional career. We are bound to say that had Dr. Buckley's nursing text-book been the nursing handbook authorized by the Association there would have been some grounds for the Royal Commission's criticisms.

For nurses contemplating taking higher certificates or University diplomas the American manual would no doubt prove as acceptable as *The Basis of Psychiatry* has been found in the case of the medical student.

We have read the book before us with the greatest interest and regard it as an appropriate completion of the author's former work, and we recommend it to our readers.

In this country we rely more on training and experience than theoretical knowledge, which is only a strain on the memory until the examination is passed.

J. R. LORD.

The Development of the Psycho-Analytical Theory of the Psychoses, 1893–1926. By JOHN RICKMAN, M.A., M.D. (Supplement No. 2 to the *International Journal of Psycho-Analysis*.) London: Baillière, Tindall & Cox, 1928. Size 10½ in. by 7 in. Pp. iii + 90, and 17 pages of Bibliography. Price 6*s*. net.

To review this publication would mean a critical survey of the whole field of psycho-analytic teaching in regard to psycho-pathology, such is the ground covered by the author. The clarity of Dr. Rickman's presentation, his avoidance of the verbosity and obscurity which characterizes many writings on the subject, and the absence of jargon which, sooner or later, attaches itself to a new department of knowledge, renders this book highly intelligible, and this, together with its comprehensiveness, renders it especially valuable to the student of psycho-pathology.

Every psychiatrist, whether he is a believer or not in Freudian teaching, should possess himself of a copy for his information, and even if only for use as a work of reference.

It covers the essential matter of many a heavy volume and its value is enhanced by a bibliography, the author has been at some pains to complete from the extensive literature which has accumulated since psycho-analysis first found a place in psychiatry in the early nineties.

At the end is a table of psychological mechanisms showing their relationship to mental disorders drawn up in 1926 by the author. Two columns of it are of particular interest—those relating to (1) defence and (2) clinical syndrome. J. R. LORD.

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Bhagavad-Gita. By VASANT G. RELE. Bombay: Taraporevala, Sons & Co., 1928. Pp. xxxii + 186. Price Rs. 4.12.

There was much in various religious systems that foreshadowed the teachings of modern psychology. Many of what we accept as maxims of mental hygiene are religious inculcations, framed in somewhat different phraseology. This book contains an exposition of Hinduism, in the light of the psycho-analytic theory. The Bhagavad-Gita is one of the sacred Hindu scriptures. It deals with the process of repair of a disordered mind by the bringing to light of the cause of the disturbance, so making possible the restoration of the harmony which should exist between the different parts of the mind. Its object is the same as that of psycho-analysis. Most of our readers will find the book difficult, on account of the ignorance which prevails in Europe of the Hindu system. This ignorance of a religion professed by many millions of our fellow-subjects in the British Empire is to be regretted. The author does his best to deal with this situation, carefully explaining the many technical terms which he is obliged to use. The Gita tells the tale of a depression which attacked one Arjuna, who was relieved from this morbid condition by Sri Krishna. The author claims that the teaching of the Gita is equally valuable to the materialist, the philosopher, the man of affairs, and the devotional man, and urges that its precepts are quite unsectarian. The exposition is thoughtful and ingenious. It is possible that a perusal of the book may induce some readers to make a further study of Hindu literature.

M. HAMBLIN SMITH.

Western Australia; State Psychological Clinic; Annual Report for the Year 1926–27. Perth, 1928. Pp. 22.

About two years ago, the Government of Western Australia decided to establish a psychological clinic, and the report of the first year's work of this institution has just been published. An excellent start appears to have been made, 833 individual cases having been dealt with, while 120 others await examination. The majority of these cases were referred from the elementary schools, and a few were sent from the children's courts; but 121 were brought, or came, privately to the clinic. This last fact is of the utmost interest, for it indicates that the clinic supplies an urgent want. Many persons desired psychological assistance for their children, or for themselves (the majority of the patients were children, but the clinic deals with adults also), but did not know where to turn for such assistance. The authorities recognize that psychology has its limitations; and the clinic works in close connection with the local general and mental hospitals.

It is also recognized that a diagnosis is not, in itself, sufficient. Rectification is, as far as possible, attempted; and it is claimed that much good has already been accomplished by means of suggestions made to the school authorities, and by advice given to parents. It is hoped that so good a beginning will justify the provision of the

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increased staff, by which alone the operations of such a clinic, especially in the direction of treatment, can be extended. To achieve this desirable end public opinion must be aroused; and, for this purpose, lectures have been delivered to magistrates, and to organizations concerned with social welfare. Miss Ethel T. Stoneman, the psychologist in charge of the clinic, also conducts classes at the University, where a number of students are taking psychology as part of their academical course.

The report contains an account of much interesting work which has been done in the re-standardization of certain tests (the Healy Pictorial Completion, the Terman Vocabulary, and the Burt Reasoning tests). Some figures are also given in connection with cranial measurements, and estimations of cranial capacity, and the correlations of these two factors with intelligence and with unsatisfactory social conduct.

A comprehensive scheme has been prepared, which aims at the co-ordination of the clinic with existing and projected institutions for the promotion of mental hygiene. Western Australia possesses no legislation for dealing with mental defectives. It is hoped that such a law will be enacted in the near future. One hint of very great practical importance is given, against housing such a clinic in a building of unduly imposing appearance. It is far better to locate it in an unobtrusive cottage. A child who is brought to a building which is stamped with officialism is, by the very appearance of that building, placed upon his guard; and much time may be wasted in overcoming the mental attitude which has thus been created.

M. HAMBLIN SMITH.

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Part III.—Epitome of Current Literature.

1. Neurology.

Synreflexia (*Association of Reflexes*). (*Journ. of Nerv. and Ment. Dis., July*, 1928.) *Austregesilo, A.*

By synreflexia the author means that one stimulus will produce two or more reflex responses. Synreflexias are to reflexes what synkinesias are to movements. He distinguishes five groups: (*a*) Superficial reflex with superficial, (*b*) superficial with deep, (*c*) superficial with visceral, (*d*) deep with visceral, (*e*) the three varieties, superficial, deep and visceral, alternate or follow one another. Synreflexias will be frequently found in neurological practice if looked for. G. W. T. H. Fleming.

Decerebrate Rigidity from a Clinical and Physiological Standpoint. (*Journ. of Nerv. and Ment. Dis., February*, 1928.) *Zand, N.*

As the result of experimental work on rabbits and the clinical and pathological examination of three cases of patients with decerebrate rigidity, Zand concludes that (1) the inferior olivary nucleus is responsible for decerebrate rigidity; (2) this theory is confirmed by (*a*) the fact that decerebrate rigidity disappears when the olives are destroyed and (*b*) by clinical cases of decerebrate rigidity, in which the olives are always well preserved, but the communication between the olives and the higher centres is destroyed.

G. W. T. H. Fleming.

Aphasia: A Study of Normal Control Cases. (*Arch. of Neur. and Psychiat., February*, 1928.) *Pearson, G. H. J., Alpers, B. J., and Weisenburg, T. H.*

The authors examined a group of 29 cases, of which 6 were normal people of considerable intellect, and the remaining 23 consisted of orthopædic cases and various organic nervous disorders without aphasia. The series of tests drawn up by Head were used. The authors found that the normal person often gives responses which are exactly the same as those obtained in cases of aphasia. There is hardly a test used in which a normal person will not at some time make mistakes. Even with people of superior intelligence mistakes are fairly frequent, and are often exactly the same as those made by patients with aphasia. In the whole series of 13 groups of tests, only the first and the last were done without error by the controls. Tests 5, 6 and 10 were almost worthless. Apart from numbers 1 and 13, the best adapted seemed to be 2, 3, 7 and 12.

The tests undoubtedly investigate intelligence to a far greater

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degree than they do speech, but at the same time they are as good as, if not better than, any others devised for the testing of aphasia.

G. W. T. H. FLEMING.

The Cerebellar Control of the Vocal Organs. (*Arch. of Neur. and Psychiat., May*, 1928.) *Bender, L.*

The author concludes that lesions of any part of the cortex of the vermis, of the roof nuclei or of the decussation between these nuclei do not produce changes in the function of the vocal cords in dogs, but that lesions to those tracts which connect the cerebellum with the medullary nuclei do produce motor disturbances of an ataxic type. Therefore the cerebellum does appear to have some control over the motor activities of the vocal cords, though this control has not been localized in any particular part of the cerebellar cortex so far studied.

G. W. T. H. FLEMING.

The Ventricular System: Its Relation to the Cerebellum. Ventriculography and Other Ventricular Evidence in the Recognition of Cerebellar Disease. (*Arch. of Neur. and Psychiat., April*, 1928.) *Elsberg, C. A., and Silbert, S.*

If progressive signs and symptoms point to a cerebellar lesion, and examination of the urine after injection of phenolphthalein into a lateral ventricle fails to show a large amount of the dye in the urine within two hours, the diagnosis of an expanding lesion in the posterior cranial fossa is so well grounded that injections of air and ventriculography are unnecessary.

If ventriculography has been performed, the occurrence of dilated ventricles with a regular outline gives support to the diagnosis of a lesion of the posterior fossa. The contralateral ventricle is usually the larger one, and the posterior horn of the lateral ventricle on the same side as the tumour is often dislocated forward, outward and upward.

If the diagnosis rests between a tumour of one frontal lobe and one of the opposite cerebellar lobe, and puncture of the ventricle on the side of the possible frontal lesion discloses a dilated ventricle, the growth is probably in the posterior cranial fossa. If in addition the other lateral ventricle is punctured and found to be dilated, and indigo carmine passes from the one into the other lateral ventricle, the probability becomes a certainty. If the clinical diagnosis favours the presence of a supratentorial growth compressing the third ventricle, but without excluding the possibility of a cerebellar neoplasm, then demonstration, by puncture, of a dilated ventricle on the side on which the tumour is presumed to be does not exclude a subtentorial lesion until air has been injected and the ventriculograms studied. Tumours which cause a bilateral dilatation of the ventricles usually cause some defect in the regular outline of the ventricles as seen on antero-posterior rœntgenograms. If the ventriculograms show that the third ventricle is dilated, then the obstruction must be either in the hindmost part of the third ventricle or behind it, and the probability of a lesion of the posterior fossa becomes greater.

G. W. T. H. FLEMING.

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Cerebellar Tumours occurring in Identical Twins. (*Arch. of Neur. and Psychiat., April*, 1928.) *Leavitt, F. H.*

The author describes monozygotic twins, one of whom died æt. 6½ and the other æt. 8½. Autopsy was only obtained in the first case, and showed a cerebellar tumour corresponding with the medullo-blastoma of Bailey and Cushing. The second case died two years afterwards but an autopsy was not allowed.

G. W. T. H. Fleming.

Tumours of the Posterior Cranial Fossa. (*Arch. of Neur. and Psychiat., March*, 1928.) *Gould, E. M.*

Fifty cases of unilateral tumours of the posterior fossa were studied. 74% of these had signs of pyramidal tract involvement on one side of the body. In 73% of those with signs there was a relative increase in tendon reflexes on the same side as the expanding lesion. In 24 patients the neoplasm was in the cerebello-pontine angle, and in 79% of these the reflexes were more active on one side of the body; in 84% the hyper-reflexia was greater on the side of the lesion. In 26 patients the tumour was within the substance of one cerebellar lobe, and in 69% of these the reflexes were more active on one side of the body.

The author thinks that the difference in the tendon reflexes on the two sides of the body may be of diagnostic importance.

G. W. T. H. Fleming.

Cholesteatoma of the Brain. (*Arch. of Neur. and Psychiat., March*, 1928.) *Kay, F. A., and Pack, G. T.*

The authors describe an unusually large (4 by 5·5 by 8 cm. and weighing 69·5 grm.) non-hair-containing epidermoid cholesteatoma, originating from the pia mater at the cerebello-pontine junction. Growth was by expansion, not infiltration. There was a capsule only at the point of attachment to the cerebellum, pons and peduncles.

Cholesteatomatous tumours have been found in the testis, ovary, uterus, mammary gland, urinary passages, cæcum, gall-bladder, bone-marrow, antrum of Highmore and petrous portion of the temporal bone.

G. W. T. H. Fleming.

The Diagnosis during Life of Cerebral Cysticercosis. The Importance of Examination of the Cerebro-Spinal Fluid. (*Riv. di Pat. Nerv. e Ment., February*, 1928.) *Rizzo, C.*

The author describes the case of a man æt. 51, who had fits of an epileptic character and marked impairment of his mental faculties. He had paraplegia and some paresis of his left arm. The differential diagnosis is discussed in detail, and the importance of seeking for eosinophilia in the cerebro-spinal fluid is emphasized.

The Wassermann was persistently negative in the fluid, despite the various colloidal reactions having given neurosyphilitic curves. The presence of an eosinophilia allows no doubt of the diagnosis.

G. W. T. H. Fleming.

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Tumour of the Brain with Wide-spread Metastases. (*Arch. of Neur. and Psychiat., March*, 1928.) *Pendergrass, E. P., and Wilbur, D. L.*

The authors describe two cases of cerebellar tumour, one an endothelioma, the other a glioma, in which metastases developed. Some years after operation, and after receiving radium treatment, the patient with the cerebellar endothelioma developed metastases in the lungs, which showed very plainly on radiological examination. There was no autopsy. The case with the cerebellar glioma (medullary blastoma), two years after operation, developed metastases involving both iliac bones, the right side of the sacrum and probably beginning in the upper part of the right femur, shown by X-ray examination. There was no autopsy. The authors quite realize the flaw in their cases due to the absence of autopsies.

G. W. T. H. Fleming.

The Thalamic and Parkinsonian Types of Infundibular Tumours. (*Arch. of Neur. and Psychiat., March*, 1928.) *Van Bogaert, L.*

Van Bogaert describes two cases of his own. Cases of supra-pituitary tumour may exhibit a thalamic or Parkinsonian appearance following the stage of their intraventricular growth. The thalamic syndrome must be referred to destruction of the internal nucleus of the thalamus, the true Parkinsonian syndrome to a lesion of the pallidum. Some extra-pyramidal disturbance must be attributed to functional troubles in the frontal pole as the result of dilatation of the lateral ventricles from neoplastic extension.

During the infundibular phase carbohydrate regulation is as a rule disturbed. In the author's first case a definite lesion of the periventricular nucleus in the tuber was present. The endocrine disturbances are almost always characterized by an adiposo-genital dystrophy which may later evolve into a state of cachexia. In the author's first case the pituitary gland was quite intact, despite the disturbance of carbohydrate and fat metabolism and of sexual function.

G. W. T. H. Fleming.

An Analysis of Abnormal Posture of the Head in Parkinsonism of Various Origins. (*Arch. of Neur. and Psychiat., February*, 1928.) *Kraus, W. M., and Silverman, N. E.*

The postural abnormalities of Parkinsonism are considered by Brock and Wechsler to be due to disease of paths underlying the righting reflex which enables the erect posture to be maintained under normal circumstances. In the 17 cases reported by the authors, the trunk-base angle was less than the normal 90° in every case, the most marked being 43°. In addition to abnormal flexion or extension of the head on the trunk, there is usually some lateral rotation and flexion. An increase of the head-trunk angle which is common in the encephalitic type of Parkinsonianism does not occur in the degenerative type. If the paths controlling erect posture are symmetrically diseased and the paths controlling posture of the head are not diseased, the picture of dissolution of erectness appears. This occurs in both degenerative and encephalitic

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types. If the paths controlling erect posture are asymmetrically diseased and the paths controlling posture of the head are not diseased, the head may be rotated or laterally flexed. This is found in both degenerative and encephalitic types. If the paths controlling erect posture are either symmetrically or asymmetrically diseased, and in addition the paths controlling posture of the head are also diseased, the head, in addition to being laterally flexed and rotated, will be overflexed either dorsally or ventrally. This occurs in encephalitis. The authors did not find dorsal over-flexion in the degenerative variety of Parkinsonism.

G. W. T. H. FLEMING.

Post-Encephalitic Fröhlich's Syndrome. (*Journ. of Nerv. and Ment. Dis., February*, 1928.) *Lang, W. J.*

Lang describes a case of congenital sexual dystrophy which developed into a typical Fröhlich's syndrome as the result of encephalitis. The response of the case to treatment showed the presence of a hypophyseal deficiency. The persisting headaches and eye symptoms point to some involvement of the cranial nerves of mesencephalic origin and due to epidemic encephalitis.

G. W. T. H. FLEMING.

Encephalitis Periaxialis Concentrica. (*Arch. of Neur. and Psychiat., February*, 1928.) *Balo, J.*

Balo describes the case of a young man, æt. 23, whose brain at autopsy showed in places concentric layers of normal white matter alternating with layers of grey softening. In the areas of grey softening fatty degeneration of the medullary sheaths was found, the fat-droplets being engulfed by gliogenic granule-cells. The axis cylinders of the nerve-fibres in general were unchanged. The most characteristic alteration of the neuroglia was the formation of giant glia-cells, which showed degeneration and were the subject of gliophagia. Near the foci the periadventitial lymphatic spaces were filled with products of degeneration, such as granule-cells, lymphocytes and plasma-cells. In areas of the brain widely distant from these pathological changes, hyaline thickenings of the arterial coats were found. The process is apparently of an inflammatory nature. Balo considers that the causative agent is a lecithinolytic ferment that exercises its action from different foci at different intervals. The condition described resembles acute multiple sclerosis and the encephalitis periaxialis diffusa of Schilder. It differs from the latter in its focal character, and from the former in the fact that in multiple sclerosis both grey and white matter, are affected, and both the brain and spinal cord. The author suggests that the term "leuko-encephalitis periaxialis concentrica" be used to designate the condition described. G. W. T. H. FLEMING.

Abscess of the Brain. (*Arch. of Neur. and Psychiat., February*, 1928.) *Diamond, J. B., and Bassoe, P.*

The area of brain contiguous to the abscess may show reactive changes of varying degree. There is capsule-formation which walls

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off the pus. In young abscesses the wall is composed of hæmatogenous elements such as lymphocytes, plasma-cells, polyblasts and macrophages. Ultimately the cells form fibrous bands and a firm capsule results. The capsule is partly formed by the adventitial cells of the blood-vessel walls. The capsule itself may be the seat of secondary abscesses. Reactive phenomena may be found far from the abscess, resulting either in a non-suppurative encephalitis or in mild reaction of the glia-tissue. Reactive phenomena on the part of the microglia and oligodendroglia were not observed.

G. W. T. H. FLEMING.

Subacute Diffuse Ependymitis. (*Arch. of Neur. and Psychiat., April*, 1928.) *Globus, J. H., and Strauss, I.*

The authors describe a case closely resembling a cerebral tumour, in which inflammatory changes in the ependymal lining with scar-formation led to closure of the foramina of Monro and of the aqueduct of Sylvius, in this way completely sealing the third ventricle and giving rise to a structure of cyst-like character.

It is impossible to diagnose these cases during life, but the occurrence of remissions in a case of chronic internal hydrocephalus should put the physician on his guard. G. W. T. H. FLEMING.

Clinical Note on Staphylococcus Septicæmia with Diffuse Involvement of the Nervous System. (*Journ. of Nerv. and Ment. Dis., April*, 1928.) *Wahl, E. F.*

The author describes a case of staphylococcus septicæmia with secondary involvement of the spinal cord, brain and meninges. There was nothing in the history to suggest an attack of epidemic encephalitis. The spastic smile, emotional instability, waxy rigidity of the arms, tremor of the head, arms and tongue, and purposeless movements of the arms and hands indicated localized involvement of the basal ganglia. Unfortunately there was no autopsy. G. W. T. H. FLEMING.

A Contribution to the Study of Epilepsy, with Especial Reference to the Literature. (*Journ. of Nerv. and Ment. Dis., April, May and June*, 1928.) *Notkin, J.*

Notkin first of all discusses briefly the existing literature regarding the pathogenesis of genuine epilepsy. He than analyses his own material of 40 female epileptics of from five to thirty-five years' standing. Of these, more than 50% had a heredity of nervous or mental disease. 32·5% had a direct ancestral alcoholism. In 10% alcohol could be shown to be a precipitating factor. 12% had a definite history of head injury previous to the onset of convulsive seizures. None of them showed signs of Jacksonian epilepsy. 12% gave a history of emotional shock previous to the outbreak of epilepsy. 75% of the cases had their onset before the age of 20 and 88% before the age of 30. There was an alcoholic history in the cases with onset after 30. In those women who had passed the menopause, the deterioration was much more marked than in

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those who were still menstruating. There was no change in the blood-sugar. With regard to personality, the author is of the opinion that the so-called typical epileptic make-up is a product of the epileptic reaction; the fundamental personality may be of various types. Epileptic deterioration is a characteristic one, the degree depending on the individual cases and probably on the type of personality make-up and other factors.

The typical voice of epileptics is not due to deterioration, since it occurs in early cases as well.

Perseveration is probably due to deterioration. Epileptics often speak of themselves in the third person. The author regards luminal treatment as the method of choice. He found in most cases a very marked decrease in the number of fits, and that the patients were much more tractable and easily controlled. No toxic symptoms were noted. There are 40 case-histories in detail and a bibliography. G. W. T. H. FLEMING.

Relation of Infantile Convulsions, Head-banging and Breath-holding to Fainting and Headaches (Migraine?) in the Parents. (*Arch. of Neur. and Psychiat., May*, 1928.) *Levy, D. M., and Patrick, H. T.*

As the result of a statistical study of 1,000 epileptics and of other patients and normal persons, the authors found that the frequency of periodic headaches in groups of apparently normal women was as high as 40·2%. These headaches were probably largely migraine. The frequency of fainting in apparently normal women was 28%.

Parents who fainted or who had periodic headaches were likely to have children who had infantile convulsions, temper with head-banging or breath-holding, or other recurrent attacks, especially spells of vomiting and fainting. Parents who fainted were more likely to have such children than parents who had periodic headaches but remained free from fainting. Parents who had frequent periodic headaches were more likely to have such children than those whose headaches were infrequent. In the same way, children who had "explosive symptoms" were more likely to have parents who fainted and had periodic headaches than children who were free from such symptoms. The "explosive symptoms" —infantile convulsions, temper with breath-holding and temper with head-banging—were in correlation with each other and with fainting and periodic headache in the parents.

G. W. T. H. FLEMING.

The Ætiology of Migraine. (*Arch. of Neur. and Psychiat., April*, 1928.) *Moloney, J. C.*

The author considers that both allergy and migraine have a common intrinsic physiopathic mechanism which is hereditary. Non-allergic persons with migraine have a higher percentage of allergy in their family history than do non-allergic persons without migraine. Non-migrainous allergic persons show a higher percentage of migraine in their family history than do non-migrainous

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persons with allergy. The author agrees with those who consider that epilepsy is not due to the same mechanism that causes migraine and allergy. G. W. T. H. FLEMING.

The Rôle of the Dorsal Roots in Muscle Tonus. (*Arch. of Neur. and Psychiat., February*, 1928.) *Ranson, S. W.*

After very carefully discussing Sherrington's proprioceptive reflex theory of tonus, the theory of antidromic conduction of tonic impulses in the dorsal roots advanced by Trzecieski and Frank, and his own experimental work, the author concludes that the nature of muscle tonus has not been determined; nor has the *rôle* played by the dorsal roots been made clear.

G. W. T. H. FLEMING.

Atypical Neuralgia. (*Arch. of Neur. and Psychiat., April*, 1928.) *Frazier, C. H.*

After considerable discussion the author dismisses as untenable the theory that there is such a condition as sympathetic neuralgia. Possibly the condition is of psychogenic origin.

G. W. T. H. FLEMING.

Electromyographic Studies in Different Types of Neuromuscular Disturbances. (*Arch. of Neur. and Psychiat., April*, 1928.) *Richter, C. P., and Ford, F. R.*

Normal voluntary action currents appear to consist of at least three different parts: (1) primary waves, (2) the "Nebenzacken," and (3) the secondary waves.

Richter recently showed that the large or primary waves have their origin somewhere within the reflex arc, either in the motor-horn cells, or in the proprioceptive end-organs in the contracting muscle. The frequency of these waves increases with the tension applied to the muscle and decreases with fatigue. The "Nebenzacken" are small projections which appear to be superimposed on the large waves. They are irregular in amplitude and frequency. When the primary waves occur at a frequency of about 40 per second the "Nebenzacken" are conspicuous, but then they gradually disappear, until at the rate of 60 per second in the muscles of the forearm and 75 per second in the biceps they are completely absent. Their presence seems to indicate that the proprioceptive impulses are out of phase. The secondary waves have a small amplitude which seems to be controlled largely by the tension of the galvanometer string. They seem to depend to a large extent on impulses from higher centres. In syringomyelia, progressive muscular atrophy and poliomyelitis, the frequency of the primary waves is markedly reduced. The amplitude of the waves is large, considering the atrophied and enfeebled state of the muscles. The primary waves are of much shorter duration than in normal records, often less than $\frac{1}{120}$ of a second. The peculiar currents found in these three diseases, the authors think, are characteristic of lesions of the anterior horn-cells, common to these three diseases.

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The records from patients with muscular dystrophy deviate from the normal, but in a different way. The primary waves are much more regular both in frequency and in amplitude than is usual in normal persons, and they are almost entirely free from irregularities, either "Nebenzacken" or secondary waves. The experimental results in this paper bear out fairly closely the theory that the primary waves are produced by the proprioceptive impulses. The present results are also partially in agreement with the view of Weizacker and Dusser de Barenne that the primary waves are somehow produced by an inherent activity of the motor horn-cells.

G. W. T. H. FLEMING.

Sympathetic Paralysis. (*Arch. of Neur. and Psychiat., February*, 1928.) *Yakovleva, I. I., Bogorodinsky, D. K., and Freidovitch, G. M.*

The authors studied the properties of the blood-vessels, the physical properties of the blood and the blood chemistry in cases of paraplegia. They found below the level of the lesion a spasm of the capillary vessels. Dermographism showed changes as the level of sensory change in the skin was passed over, but the boundary of the dermographism corresponds to a higher segment than does that of the sensory disorders. In a small number of cases the blood-pressure was found to be lower in the leg than in the arm, contrary to the usual finding in these cases. In 76% of paraplegics there was acceleration of blood-clotting in the leg, and in 100% there was unequal coagulation time between the blood from the arm and that from the leg. In 70% of cases the dried solids were greater in weight in the blood from the leg than in that from the arm. In 50% of cases the blood-sugar was increased in blood from below the level of the lesion.

G. W. T. H. FLEMING.

Sympathetic Irritation in a Case of Actinomycosis. (*Arch. of Neur. and Psychiat., March*, 1928.) *Brickner, R. M., and Zemansky, A. P.*

In a case of actinomycosis of the right lung and right posterior chest-wall there were irritative disturbances of function of the thoracic sympathetic chain. The area affected included the right side of the face and neck, the entire upper right extremity, and the right side of the chest down to the twelfth rib. The mid-line and the line of the twelfth rib formed sharp boundaries.

The sympathetic changes were indicated by localized hyperidrosis, appearance of goose-flesh, pilo-erection and unilateral nipple erection, and exaggerated response to the drawing of a pin across the right side of the front of the chest, a lowering of the temperature with pallor of the right hand as compared with the left, and bizarre responses of the upper right extremity to extensive changes in temperature. There was no difference between the right and left upper extremities with regard to blood-pressure, growth or condition of the hair or nails, or reactivity of muscles or nerves to electrical stimulation and to epinephrine.

G. W. T. H. FLEMING.

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A Case of Amyotonia Congenita. (*Journ. of Nerv. and Ment. Dis., February*, 1928.) *Young, W. W.*

The author reports an otherwise typical case of amyotonia congenita who had an extra-ocular palsy—a symptom not previously recorded. He discusses the differential diagnosis, and says that the subsequent course of the disease confirmed his diagnosis, but the strabismus did not improve. G. W. T. H. FLEMING.

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2. Psychology and Psycho-Pathology.

The Pathology of Conditioned Reflexes and the So-called Psychogenic Depression. (*Journ. of Nerv. and Ment. Dis., April*, 1928.) *Ivanov-Smolensky, A. G.*

The author describes experiments on conditioned reflexes in dogs, in which, when a series of four components was reversed or interchanged, the dog became incapable of forming a conditioned reflex to the new stimulus. As a result of this failure the dog developed a curious change in behaviour. It first of all became excited and noisy, and the salivary and motor reflexes became high and the reactions to the inhibitory signal more intense. By degrees this behaviour changed; the dog had to be dragged out of its cage, its head was lowered, its tail between its legs, its ears pressed to its head; it was "all huddled up." Outside the stand its behaviour was dreamy, languid and depressive. In addition it began to refuse food, and the sight and odour of food failed to produce adequate salivary and motor conditioned reflexes. Both artificial and natural conditioned reflexes were therefore inhibited. If it was possible to make the animal eat, it ate its food very slowly and there was an extremely small unconditioned salivary reflex. It was impossible to form a new conditioned reflex in the animal when it was in this state. The author then compares this condition in dogs with the reactive depressions so common in psychiatry. The cerebral hemispheres in these conditions are incapable of balancing the stimulations and inhibitions of the bio-social surroundings. There may be a prevalence of stimulative processes, giving a picture of general irritation and often leading to the development of a neurosis. If inhibition is the predominant note, this inhibition may spread to lower centres, interfering with digestion, secretion, etc.

The formation of new motor habits is impossible, and habits, even those which have been acquired in youth, are inhibited, including the most complicated social and professional habits. There is a general slowing of such movements as dressing and undressing, eating, and even the movements of speech. Patients in this state obstinately refuse food, their sexual activity is markedly reduced, and there is complete inhibition of active self-defence and a disappearance of interest in their surroundings.

G. W. T. H. FLEMING.

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The Rôle of Consonance and Dissonance in Music. (*Amer. Journ. of Psychol., April*, 1928.) *Guernsey, M.*

This study considers the æsthetic enigma of the rapid development of the so-called "modern" music, and its apparent discrepancy with harmonic theory and scientific inquiry. A. WOHLGEMUTH.

Meaningful Behaviour in Hypnosis. (*Amer. Journ. of Psychol., April*, 1928.) *Rosenow, C.*

After having enlarged on the meaning of "meaning," the author states his thesis as follows: "The phenomena of hypnosis are resultants of the meaningful behaviour of the individual in ways which that individual does not understand." Upon study this lack of understanding has resolved itself into an undeveloped aspect of meaningful activity. The meaning characteristic of all forms of hypnotic behaviour is the intention to co-operate with the hypnotist.
A. WOHLGEMUTH.

Psychological Effects of Fasting. (*Amer. Journ of Psychol., April*, 1928.) *Glaze, J. A.*

Three subjects fasted for periods of 10, 17 and 33 days respectively. Before, during and after the fast they were continuously submitted to tests which led the author to the following conclusions: (1) The so-called "mental" output is generally decreased during a long fast. (2) A fast of more than a week's duration definitely increases steadiness of hand. (3) Subjects become fatigued more rapidly during a fast than normally when the task is monotonous and of considerable length. (4) Performance of some tasks after a long fast is much more efficient than normally—an effect which can hardly be attributed to practice alone. (5) In casual observations it was noticed (*a*) that the smell sensitivity is greatly increased during a long fast, (*b*) that sex feelings in males are constantly accentuated when eating is resumed after a long fast. A. WOHLGEMUTH.

The Effect of Brightness in the Range of Attention Experiment. (*Amer. Journ. of Psychol., April*, 1928.) *Cooper, S. F.*

The purpose of this investigation was to determine whether or not any constant relation exists between stimulus intensity and degree of perceptual clearness. The procedure consisted of exposing various groups of dots of different intensities, *viz.*, black, dark grey or light grey on a white background in a tachistoscope.
A. WOHLGEMUTH.

The Range of Visual Attention, Cognition and Apprehension for Coloured Stimuli. (*Amer. Journ. of Psychol., April*, 1928.) *Hartji, J. R.*

The results of this investigation are summarized as follows: (1) The judgments for the range of attention, cognition and apprehension fall into curves of the ϕ-γ type for yellow, red, blue and green stimuli; (2) the limina for attention are smallest, for

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cognition intermediate, and for apprehension the largest, in confirmation of Oberley's result for uncoloured stimuli; (3) the limina for red are constantly larger for each of the three systematic categories and for the different degrees of subjective assurance. The limina for green are similarly smallest, with those for yellow and blue intermediate. (4) No such relation is discovered with regard to the magnitude of the values of coefficients of precision. (5) Brightness and saturation differences do not seem to account for these liminal differences, and the "*Anklingen*" times of the colours may possibly offer a more satisfactory explanation.

A. WOHLGEMUTH.

The Relation of the Intelligence of Pre-School Children to the Occupation of their Fathers. (*Amer. Journ. of Psychol., April*, 1928.) *Goodenough, Florence L.*

A group of 380 children between the ages of 18 and 54 months were tested in a Child Welfare Institute by the Kuhlman revision of the Binet Tests. The author comes to the following conclusion: "The fact that children of different social classes show as great differences in their performance of these extremely simple tasks as they afterwards manifest in regard to the relatively complex problems of later life, lends support to the theory that under ordinary conditions of modern life, variations in mental growth are more directly dependent upon innate factors than upon differences in post-natal opportunity or stimulation.

A. WOHLGEMUTH.

The Psychogenic Factors in the Sequelæ of Cerebral Trauma. (*Journ. of Nerv. and Ment. Dis., May*, 1928.) *Pearson, G. H. J.*

The author describes two cases of head injury in two children, in which he considers that the personality disorders following the injury were due to factors in the home life which had been operating for years. In neither case was the head injury very severe.

G. W. T. H. FLEMING.

The Adaptation of the Family to the Child. (*Brit. Journ. of Med. Psychol., viii, pt.* 1, *April*, 1928.) *Ferenczi, S.*

This is a psycho-analytic paper of the usual type. Among other remarkable dicta we find the following worth recording: "Since hysteria is the negative of a perversion, as Freud has taught us, then normality is a sort of perversion." A. WOHLGEMUTH.

Freud versus Jung. (*Brit. Journ of Med. Psychol., viii, pt.* 1, *April*, 1928.) *Baynes, H. G.*

On Some of the Standpoints of Freud and Jung. (*Brit. Journ. of Med. Psychol., viii, pt.* 1, *April*, 1928.) *Rickman, John.*

An elaboration of a recent debate concerning basic psychological conceptions. These papers are quite interesting, if not instructive, to the observant and detached psychologist. Each of the disputants

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sees the mote in his brother's eye, but not the beam in his own. The impression one gathers is that if Freud is mythological, Jung is mystical. A. WOHLGEMUTH.

Biological Foundations and Mental Methods. (*Brit. Journ. of Med. Psychol., viii, pt. 1, April,* 1928.) *Burrow, Trigant.*

"It (medicine) has not yet recognized that there is a generic cause underlying the external appearances of mental disturbance and that this underlying cause is a definitive and specific one. Lacking this basis, it is not yet a matter of general medical knowledge . . . that mental disorders are infectious, that these conditions are transmissible from one individual to another and from generation to generation, and that the soil for their germination or spread is, like that of somatic infections, the social medium." And again: "These researches have led me to the conclusion that the concept of 'mental' disorder in its present individualistic and symptomatic content is, throughout, a biological misnomer and that all therapeutic procedure based upon it is necessarily erroneous." From these quotations the general trend of the paper can be inferred. It is the author's thesis that a nervous disorder represents in truth a physiological disorder due to the separation of the individual from his place as a functioning part of the species as a whole. Further he maintains that the neurosis is physiological, that social images with their external moralistic standards and peripheral adaptations are based upon a physiological miscarriage of feeling and instinct, and that this is due to a cleavage or discontinuity between the two major nervous systems governing the organism of man. A. WOHLGEMUTH.

Psyche, April, 1928.

This number contains articles by the editor, C. K. Ogden, and by Adelyne More on "Bentham," an interesting study by J. G. Myers and J. H. Myers on "The Significance of Cicada Song," and the following papers: "The Child's Early Discrimination between Sound and Speech," by Mary Chadwick; "Psycho-analysis and the Artist," by Ernest Jones; "A Theory of the Smile," by A. M. Hocart; "The Last Proust," by E. Eales, and some reviews.

A. WOHLGEMUTH.

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3. Clinical Psychiatry.

The Electrical Skin Resistance. (*Arch. of Neur. and Psychiat., March,* 1928.) *Richter, C. P.*

The electrical skin resistance was measured in 26 normal persons and in 66 psychopathic patients. Readings can be taken easily and quickly at frequent intervals; here they were taken at hourly intervals throughout the day, and at daily intervals throughout a long period to determine daily variation. Normal subjects gave records which remained fairly constant. The records from manic-depressive and hysterical patients varied slightly, but within normal

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limits. Katatonic and schizophrenic patients showed records with wide individual differences and great variation from normal.

Schizophrenic patients with marked feelings of passivity deviated to one extreme, those of the active or paranoid reaction type deviated to the other. Variations in skin resistance are of more value in showing changes in the emotional and mental condition of the subject than determinations of basal metabolic rate, respiration, etc.

In psychopathic patients there are often large variations in skin resistance without any corresponding peculiarity in behaviour. The resistance of the palm of the hand is chiefly dependent on the activity of the sweat-glands, and is controlled by nervous impulses, partly from sympathetic and partly from somatic nerves. The resistance from the back of one hand to the back of the other is dependent on the epithelial cells and is largely, if not entirely, free from nervous control. This back-to-back resistance varies with the amount of heat liberated by the muscles under varying degrees of tension. The heat produced stimulates the epithelial cells, increasing their permeability, and more moisture is given off. In tense, strained subjects there is a high permeability of the dorsal surfaces, in persons free from strain a low permeability.

Variations in the palm-to-palm resistance are associated with changes in the central nervous system rather than with changes in the muscles. The author found that a high palm-to-palm resistance over a prolonged period is apt to be associated with a depressed mental condition, while high individual palm-to-palm readings are associated with feelings of sleepiness. The palm-to-palm resistance was found at a constantly high level in some narcoleptics even when they were not having a sleeping attack. During the attacks the resistance showed a marked additional increase.

G. W. T. H. FLEMING.

Psychosis and Hyperthyroidism. (*Journ. of Nerv. and Ment. Dis., June*, 1928.) *Johnson, W. D.*

Johnson analyses the records of the Cleveland Clinic Hospital, containing 2,286 operative goitre cases. In this series there were 24 cases of true psychosis confirmed by a psychiatrist. A case of hyperthyroidism that has a psychosis or is delirious should not be operated on, as the results are uniformly bad. Hallucinations and delusions with a predominance of depressive states are the rule in this type of case. In the cases of true psychosis there is no tendency to improvement before the fifth day and the prognosis is always uncertain. Psychosis in association with hyperthyroidism is relatively rare, and when it does occur is most often a manifestation of a pre-existing psychotic state. G. W. T. H. FLEMING.

Psychoses in Criminals (*Part II*). (*Journ. of Nerv. and Ment. Dis., April, May, June and July*, 1928.) *Karpman, B.*

The author describes at great length two cases of prison psychoses, and discusses in great detail the differential diagnosis of this psychosis from a schizophrenic or a manic-depressive one. In conclusion he states that when an individual is confronted by an external

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situation which is not acceptable to the ego, he develops a set of reactions whose object is to make life bearable. These reactive psychoses stand in a class by themselves, differing from other psychoses in the manner of their onset and maintenance, individual behaviour, ideational content and affective attitude, and in their good prognosis. G. W. T. H. FLEMING.

4. Pathology.

Localization in Animals of Streptococci from Cases of Epidemic Hiccup, Encephalitis, Spasmodic Torticollis and Chorea. (*Arch. of Neur. and Psychiat., March*, 1928.) *Rosenow, E. C.*

Rosenow injected intra-cerebrally deep into the frontal lobe in animals 0·1 c.c.–0·2 c.c. of nasopharyngeal swabbings or of pus expressed from tonsils suspended in 2 c.c. of 0·1% gelatin in Locke solution, or these amounts from the primary cultures in dextrose brain broth or of cultures from the apices of extracted, devitalized teeth diluted 1 in 10. Only cases of the diseases mentioned in the title of the paper were used. Control cases gave uniformly negative results. The streptococci isolated in each of these conditions, while much alike, possess very different localizing and symptom-producing power when injected intracerebrally, and rapidly lose this property, especially on aerobic cultivation. The author thinks that the specific localizing power of the streptococcus is dependent in part at least on the production of a toxin which has specific effects. Lethargy, hyperpnœa with marked arrhythmia and the symptoms characteristic of spasmodic torticollis were produced with filtrates from nasopharyngeal washings, filtrates of suspensions of pus from tonsils, and filtrates of old cultures of the specific streptococcus in each of these conditions. The fact that the streptococcus having specific effects and the power to produce a specific poison can be isolated long after onset indicates that the late manifestations of encephalitis and allied conditions are not sequels, but are due to the activity of the causative organism or its toxin. G. W. T. H. FLEMING.

Pineal Pathology: Further Studies. (*Arch. of Neur. and Psychiat., March*, 1928.) *Horrax, G., and Bailey, P.*

The authors report three cases, with clinical records and pathological reports. The first case was a pinealoma containing cartilage-cells associated with slight pubertas præcox, the second was a ganglio-neuroma replacing the pineal body, with normal physical and sexual development, and the third was a large tumour of the third ventricle with a normal pineal body, but showing marked pubertas præcox. The authors draw no definite conclusion about the function of the pineal body. G. W. T. H. FLEMING.

Malignant Chordoma of the Lumbar Region. (*Arch. of Neur. and Psychiat., March*, 1928.) *Davison, C., and Weil, A.*

The clinical course and *post-mortem* examination of a malignant chordoma of the lumbar region are described. Usually chordomas

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are soft and gelatinous in consistency and are often mistaken clinically for abscesses. In this case it was of a fibrous consistency. Sclerosis of the left body of the third lumbar vertebræ was found by the Rœntgen ray. The appearance corresponded to what has been described under the terms " vertèbre d'ivoire " and " Marmorknochen." This condition is occasionally found in patients with cancer of the breast or other parts who have metastatic deposits in the vertebral column. G. W. T. H. FLEMING.

A Pathological State of the Choroid Plexuses in So-called Essential Epilepsy. (*Journ. of Nerv. and Ment. Dis., May,* 1928.) *Gordon, A.*

Gordon describes the case of a boy, æt. 10, who had been epileptic since the age of 5. He died of broncho-pneumonia, and at the autopsy the only lesion present in the brain was in the choroid plexuses, which were very much congested, thick, large, and hard under the fingers. On microscopical examination the blood-vessels were found to be filled with thrombi of all sizes, some of them being surrounded by a thickened external wall as the result of an inflammatory process of long standing. The ependyma of the lateral ventricles showed a similar thickening. This case furnishes further support to the conception that epileptic seizures may have their origin in any part of the central nervous system.

G. W. T. H. FLEMING.

Rabies in Man. (*Arch. of Neur. and Psychiat., April,* 1928.) *Löwenberg, K.*

The author describes 4 cases of rabies examined histologically by himself, and compares his results with those of Schukri and Spatz and of Klarfeld, with special reference to the resemblance to epidemic encephalitis.

The brunt of the inflammatory reaction in all four cases was borne by the substantia nigra and the substantia centralis grisea, and to a lesser degree by the pontine nuclei. In the substantia nigra the pigmented cells showed the most distinct neuronophagia, and where the cells were completely destroyed there was marked phagocytosis of the pigment by the neuroglia. In the pontine nuclei the neuroglial proliferation was restricted to the area of ganglion cells that were undergoing destruction. In the white matter there were hardly any signs of inflammatory change. The type of neuroglial cells most frequently found were special types of Hortega cells with large, well-staining nuclei. Occasionally the rod-like form of Hortega cell was found. All those neuroglial cells were scattered through the affected tissues with occasional nodule-formation, and other attempts at organized neuroglial structure. The vascular elements were not extensively affected, a lymphocytic infiltration being characteristic. The predominantly degenerative lesion is localized in the cortex, basal ganglia, white matter and cerebellum. The meningitic component in the author's third case and the purulent inflammatory process in his fourth case are both

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extremely unusual in epidemic encephalitis. The character of the cerebro-spinal fluid is unlike that in other acute disease processes. Except in the fourth case there was an absence of organic constituents. The shorter the period of incubation the more acute and intense is the disease process. G. W. T. H. FLEMING.

Millon's Reaction in the Urine of Toxic Psychoses. (*Riv. di Pat. Nerv. e Ment., May*, 1928.) *Scheiner, E.*

Dilutions of the urine from 1 in 10 down to 1 in 150 are made with distilled water, and tested by warming with one drop of Millon's reagent. A rose-red coloured precipitate denotes a positive result, and the lowest dilution in which this occurs is noted.

In alcoholic, post-infective and post-puerperal psychoses and in hebephrenic-katatonic cases of dementia præcox the urine constantly contains a substance whose chief characteristic is a positive Millon's reaction.

This substance is neither free phenol, nor an oxy-aromatic acid, nor tyrosine. The appearance of this substance in the urine is usually accompanied by that of other products of abnormal metabolism, like urobilin and urobilinogen, which signify a disturbance of the liver-cells. The author also considers that the black reaction of Buscaino is due to a substance which originates in an alteration of liver function. The reaction of Millon in the urine probably signifies a process of destruction (necrosis ?) in the liver-cells.

G. W. T. H. FLEMING.

Colloidal Gold Reactions with Spinal Fluids Contaminated with Blood. (*Arch. of Neur. and Psychiat., February*, 1928.) *Mehrtens, H. G., Wyckoff, H. A., and Davis, R. M.*

Spinal fluids which are contaminated with blood, but from which the cells are removed by centrifuging before hæmolysis occurs, produce a colloidal gold curve altered in intensity only; the type of the curve remains the same. When spinal fluids from patients with general paralysis, made normal by treatment, are contaminated with blood-plasma, they show a tendency to revert to the former paralytic type of curve. G. W. T. H. FLEMING.

The Colloidal Reaction of Takata-Ara. (*Riv. di Pat. Nerv. e Ment., May*, 1928.) *Uguccioni, G.*

For the colloidal reaction of Takata-Ara three solutions are required—a 10% solution of sodium carbonate, a 0·5% solution of mercuric chloride, and a 0·02% solution of Grübler's basic fuchsin.

To 1 c.c. of cerebro-spinal fluid add 1 drop of the sodium carbonate solution, and then, with a graduated 1 c.c. pipette, 0·3 c.c. of a mixture of equal parts of the mercuric chloride and fuchsin solutions, freshly mixed, shaking after the addition of each few drops of reagent.

The results are read after five minutes, half an hour and twelve hours. Two different types of reaction occur in positive fluids—a metasyphilitic type where there is flocculation and a violet-blue colour, and a meningitic type in which there is a diffuse red colour

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without any flocculation. In the normal fluid there is a violet colour without any flocculation even after twelve hours. The great virtue of the reaction is its simplicity. It does not take the place of the Wassermann. It is almost invariably 3 + in general paralysis, weaker in tabes or meningo-vascular neurosyphilis. After malarial treatment of general paralysis the weakening of the reaction runs roughly parallel with the weakening of the Wassermann.

It enables one to differentiate between cases with increase of albumen only, and those in which there is a disproportionate increase in globulin. G. W. T. H. FLEMING.

The Practical Value of the Paraffin Reaction in the Cerebro-Spinal Fluid. (*Riv. di Neurologia, June*, 1928.) *Pisani, D., and Gozzano, M.*

The authors used Kafka's paraffin reaction on 84 cases of neuro-syphilis and 116 non-syphilitic neurological cases. In only 14 cases out of 69 paralytics or tabo-paralytics was the maximum degree of precipitation in the second tube. After malarial treatment there was a marked weakening of the curve, but the type remained the same. In 8 tabetics the maximum precipitation was in tube 1 in 2 cases, in tube 2 in 3 cases, and in tube 3 in 3 cases. In 7 cases of cerebral or meningeal syphilis the maximum precipitation was in the third tube.

The reaction was negative in 98 out of the 116 non-syphilitic cases. The authors conclude that the paraffin reaction is the best of the colloidal reactions, both from the point of view of the specificity of results and the simplicity of technique.

G. W. T. H. FLEMING.

Influence of Malarial Treatment on the Spinal Fluid in General Paralysis. (*Arch. of Neur. and Psychiat., March*, 1928.) *Bunker, H. A.*

In 72% of 90 cases in which there was a definite pleocytosis in the spinal fluid prior to treatment, an immediate reduction in the white cell-count to normal or almost normal (6–10 cells) was found after malarial treatment. In 10 additional cases a similar reduction required a month to manifest itself, in 4 cases three months, and in 4 cases six months. In only 7 cases was the pleocytosis unaffected by malaria treatment, in 4 cases it persisted until terminated by treatment with tryparsamide, which was begun after from 7 to forty-three months, in 3 by death after from three to eighteen months.

In 75% of 16 patients an immediate and rather definite post-malarial reduction in the total protein occurred; this was more evident at the end of one month, and more still after three months. In a group of recently treated patients, the average total protein prior to treatment (22 cases) was 192 mgrm. per 100 c.c., 156 mgrm. immediately after treatment (16 cases), 124 mgrm. after one month (13 cases), and 91 mgrm. after three months (10 cases). Of 38 patients observed two years after treatment, 42% gave a practically normal albumen reading of 50 mgrm., 29% gave from 50–75 mgrm.,

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and 21% gave a definitely elevated reading of 85 mgrm. as an average.

40% of 47 cases after an interval of at least two years showed little if any modification of the fluid Wassermann, 15% showed a slight modification, 23% showed a great modification, and 21% showed a complete negative. The behaviour of the Wassermann bears little relation to the clinical outcome.

The time has not yet come to give definite prognostic views from the behaviour of the cerebro-spinal fluid after malarial treatment.

G. W. T. H. FLEMING.

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5. Treatment.

Experience with Silver Salvarsan in the Treatment of Multiple Sclerosis. (*Journ. of Nerv. and Ment. Dis.*, *June*, 1928.) *Osnato, M.*

Osnato obtained good results in 6 of a series of 25 cases of multiple sclerosis treated during the last six years. He emphasizes very strongly the fact that treatment, to be of the slightest use, must be carried out systematically and continuously for a long time, and during the first few months the patient should be kept in bed. The patients were given 0·3 grm. silver salvarsan intravenously every week for ten weeks. A rest of a month followed and then the series was repeated. This should go on for at least from eighteen months to two years. Poor results so often obtained in the treatment of multiple sclerosis may be due to insufficient treatment.

G. W. T. H. FLEMING.

The Treatment of Syphilis: Considerations from the Neurologist's Standpoint [*Betrachtungen des Neurologen zur Behandlung der Syphilis*]. (*Psych.-Neurol. Woch.*, *Nos.* 23, 24, 25, *June* 9, 16, 23, 1928.) *Daltner, B.*

The author, who is a member of Prof. Wagner-Jauregg's clinic, delivered this address to the Vienna Medical Society in January, 1928. It embodies a number of important observations on the cerebro-spinal fluid in treated and untreated syphilis and general paralysis. Two typical cases are quoted, in whom intensive specific treatment was carried out during the latent period, on account of a persistent blood Wassermann, and was followed by the development of paretic symptoms. The question arises whether the state of the central nervous system can be ascertained during this period. Both the pupil reactions and the blood Wassermann are quite fallacious for this purpose. The changes in the cerebro-spinal fluid are reliable, subject to the following considerations: Collected statistics show that in the early secondary stage about 60% of patients show changes in the cerebro-spinal fluid; in the post-secondary latent period only 25–50% show changes. The proportion of syphilitics who develop metasyphilitic disorders is not above

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11%, but the chances of developing these disorders become greater the longer the changes in the fluid persist. It appears that only those patients who retain a positive cerebro-spinal fluid in the latent period are liable to general paralysis.

When paralytics who have been successfully treated by malaria are followed up, it is found that the changes in the fluid disappear very gradually in cases that show complete remission, and that where they persist unaltered a relapse sooner or later takes place. These observations can be applied to patients in the post-secondary latent period with a persistently positive cerebro-spinal fluid. They may be regarded as being in a state of unstable equilibrium, in which various factors may precipitate the onset of general paralysis. Untimely therapeutic intervention may constitute such a factor, as the following observations seem to show. In a series of general paralytics the period that had elapsed between the original infection and the onset of paralytic symptoms was shortest in those whose syphilis had been energetically treated, and longest in the untreated cases; further, the results of malarial therapy were much better in untreated than in treated cases.

The conclusion is that specific treatment is definitely contra-indicated in latent cases with persistently positive changes in the cerebro-spinal fluid. A single examination of the fluid gives no indication of whether the tendency of the fluid is to return to normal or to remain persistently pathological. Reliance must be placed on repeated examinations with study of the resultant curves for each reaction. If the pathological changes are persistent, the patient should be given a course of malarial treatment, or failing this a combined course of tuberculin with bismuth and salvarsan. The technique of this latter method is described in detail.

In view of the importance of repeated lumbar punctures in the treatment of every case of syphilis, it is desirable to carry out the procedure with as little disturbance as possible to the patient's activities, and the author considers that, using Antoni's special cannula, punctures can safely be done on out-patients.

A. WALK.

The Treatment of Debilitated General Paralytics [*Wie sollen geschwächte Paralytiker behandelt werden ?*]. (*Psych.-Neurol. Woch.*, *No.* 19, *May* 12, 1928.) *Weisz, M.*

This is a preliminary communication on a new method of treatment which the author has applied to cases of progressive general paralysis who are either in too weak a condition to undergo malarial treatment or who have relapsed following treatment. It consists of repeated injections of small quantities of blood from another patient in whom the disease has become arrested, either spontaneously or as a result of malarial treatment. From ten to twelve intravenous injections are given, each of 10 c.c. of blood. The blood is not citrated, and grouping is unnecessary. The author reports good results, most of the patients treated having shown considerable mental and physical improvement. A. WALK.

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Club Wards [*Die Kameradschaft*]. (*Psych.-Neurol. Woch., No.* 16, *April* 21, 1928.) *Bresler, J.*

Dr. Bresler discusses the provision, in mental hospitals, of open and free wards or villas, in which there is no permanent supervision by the staff. Regular or occasional visiting may be arranged, or the ward may be left entirely unattended. Selected patients are placed in charge, and entrusted with responsibility for the good order of these wards. The patients are to regard themselves as living in a common mess or club rather than in a hospital ward. The system owes its inception to Mönkemöller, and Dr. Bresler proposes the latter's name to designate wards of this type.

A. WALK.

Family Care of the Insane in Present-day Germany [*Die Familienpflege Kranksinniger im heutigen Deutschland*]. (*Psych.-Neurol. Woch., Nos.* 16 *and* 17, *April* 21 *and* 28, 1928.) *Bufe, E.*

A system of boarding-out exists in connection with the majority of German mental hospitals. The boarded-out patients remain attached to the hospital and are placed with families resident in the immediate vicinity; they are attended by the staff of the hospital. Their numbers are small compared with the total patients resident in the hospital itself; about 2–5% is the average proportion, though some institutions board out as many as 10% of their patients. The system differs from that seen in colonies founded on the Gheel model, where a small central hospital serves a large population of patients in family care, and from the Scottish and Norwegian practice, in which small numbers of patients are dispersed over a wide area and do not remain in close connection with any institution. It must also be distinguished from "open supervision," which applies to patients who do not need institutional care and can remain in their own homes, subject to regular visitation and assistance. Family care of the insane was largely in abeyance during the war and post-war periods, but is now again firmly established. The author discusses the advantages of the system and lays stress especially on its economy; he believes that a saving to the institution will result even if paid labour has to be employed to replace boarded-out working patients.

A. WALK.

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6. Mental Hospital Reports.

ENGLAND AND WALES.

Birmingham City Mental Hospitals.—Dr. Graves, in his capacity as Chief Medical Officer, reports on the work of the three mental hospitals under his supervision for the year 1927, and especially on the investigations and treatment of physical disease processes.

Of 531 cases admitted oral sepsis was recognized in 77%, and the dental surgeon reports that this percentage is higher than that met with in private practice—presumably of the same class.

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50% of all the cases admitted during the year showed some form of septic condition in the upper air-passages, ear, nose or throat.

"It is worthy of record that no patient has been made worse mentally or physically by operative treatment, which has been carried out in the presence, in many cases, of considerable circulatory weakness, generally due to the septic condition towards which the operative treatment is directed.

"Improvement leading to recovery and discharge has followed in a considerable number of cases.

"These diseased conditions in the upper air-passages have been found associated with many types of mental disorder, in states of depression, exaltation, confusion, stupor, hallucination, post-encephalitic, epileptic, general paralysis, puerperal, and in adolescents as well as those of mature years.

"Apart, however, from what is the effect on the general health, the question has arisen as to the possible direct action of these conditions of nose-mouth sepsis on the brain."

The relation of gynæcological conditions to mental disease, and the effect of influenza and post-influenzal conditions, is gone into with some detail, and as regards epilepsy—

"Dr. Pickworth's work on two cases of advanced epilepsy and mental disorder points to the direct invasion of the brain by organisms passing through diseased bone of the skull and damaging the pituitary gland. Thus the clinical and pathological evidence we have, supported by histories of the patients' illness, point to the value of the early treatment of diseased conditions in the head in the prevention of mental disorder."

At Rubery Hill and Hollymoor a Widal test for typhoid, paratyphoid, the food-poisoning group of infections, the dysentery and other allied organisms is carried out on every case on admission.

"This work has shown that about 25% of the cases *on admission* have had at some time or another intestinal infections of greater or less severity, which may have been responsible for reduction of vitality in various degrees, and so led indirectly to the production of mental disturbance.

"Some of these cases become 'carriers,' and the infection is liable to become active later in the form of dysentery, colitis and severe diarrhœa. Two such cases arose during the year. In one, a male idiot, the predominant infection was a *Bacillus pyocyaneus*, and the other gave *Bacillus Shiga* for a short while.

"These conditions soon cleared up under treatment."

The recovery-rate for the year was 48·1% at Rubery Hill and Hollymoor, and 41·4% at Winson Green.

Devon Mental Hospital.—On December 31, 1926, there were on the register of this Hospital 1,227 patients (M., 493; F., 734)—an increase of 11 in the year. There were admitted during the year 294 cases (M., 127; F., 167), and the recovery-rate on the direct admissions was 35·53%.

Dr. Eager reports the very large amount of work, clinical and pathological, done during the year in the laboratory, now under Dr. Murdoch, and records the value of antityphoid inoculations in combating the sporadic occurrence of enteric fever in the hospital, the cause of this having been apparently discovered in defective drains.

"As anticipated in my last report, your decision to test the drains has disclosed the fact that they are in such a defective state that there seems little need to look further for the sporadic cases of typhoid in this hospital. In some instances these drains were leaking under wards occupied by patients, and in one case a cavity into which sewage had access was found under the building."

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Of the malaria treatment of general paralysis, Dr. Eager reports as follows:

"Of the 13 cases treated, 3 have died of intercurrent affections, and one (H. A—) has been discharged. This case has been examined from time to time at the Out-Patient Clinic in Exeter, and his condition remains satisfactory. Of the other 9, one male (F. J—) and one female (B. J. A—), who were both admitted in the comparatively early stages of the disease, show considerable improvement. The male case is able to be usefully employed in garden work and to be on parole. The other 7 seem to show improvement, both physically and mentally, and are cleaner in habits than untreated cases. I am intentionally cautious about my reference to any improvement, as remissions so commonly occur in untreated cases of this disease, and this is apt to deceive those who have not had considerable experience of such cases. Time alone can prove the value of this treatment, which must be considered worthy of a thorough trial, seeing that the fact remains that up to the present a fatal termination of this disease is inevitable within a few years of the certifiable stage.

"With this in mind, I have purposely kept untreated 3 cases, which were picked out at random at the time the malaria treatment was first started in this Hospital, and these 3 cases are all at present alive, and serve as controls to the results obtained by treatment. All treatment has been given by direct infection from mosquitoes, except in two females, in which this produced negative results. Both these cases were in the third stage of the disease, and successful infection was produced subsequently by blood inoculation. One (K. T—) has since died; the other (E. T—) improved physically and became worse mentally, but has lately shown some improvement in this respect also.

"During the stage of active malarial infection, all cases have been kept in mosquito-proof enclosures specially devised for this purpose, and made in the Hospital workshops."

The out-patient clinic in Exeter, attended every alternate week by Dr. Eager and by Dr. Reid, of the City Mental Hospital, Exeter, is doing good work, both in treatment of particular cases, and in educating the public to a right view in the matter of mental disease.

The record of occupations treatment is most interesting and shows its value both financially and therapeutically.

Middlesbrough Mental Hospital (*St. Luke's*).—The total number of patients resident at the end of the year 1927 was 459 (M., 231; F., 228), as against 476 at the commencement. There were admitted during the year 90 cases (M., 44; F., 46), and of these Dr. Drake-Brockman says:

"They were, throughout, characterized by such effects as are produced by the difficult state of the times. A reduced condition of health, malnutrition and lack of resistance showed itself in a very large proportion of cases.

"Anxiety and worry of prolonged duration played a definite part in causation, being engrafted on hereditary predisposition."

He also shows an interesting table giving the state of the area served by his hospital as regards mental disease from the year 1893, which shows that the proportion of certified insanity has increased within the borough from about 1 in 500 to 1 in 400 since that year.

The recovery-rate for the year was the very high one of 62·2%, calculated on the direct admissions, and the death-rate 8·5%.

This hospital also receives under contract patients from the borough of South Shields.

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Plymouth Mental Hospital.—The total number of patients on the register of this hospital on December 31, 1927, was 522, but in addition to this a considerable number of patients are boarded out at the Devon, Exeter and Cornwall Mental Hospitals. In consequence of the determination of the agreement for boarded-out patients by the Park Prewett Mental Hospital Committee, the demand for accommodation became acute, and under these conditions the Committee wisely decided to proceed with a scheme for the permanent extension of the hospital, plans for which are now well advanced.

The admissions for the year numbered 132 (M., 47; F., 85), and the recovery-rate was 32·7. As to causation of the mental breakdown in the admissions Dr. Starkey draws attention to "the important part played by heredity"; the figures in Table VIII, however, only show heredity ascertained in about 23% of the cases.

There was no death from tuberculosis during the year but a considerable number from general paralysis, and concerning these Dr. Starkey comments as follows:

"In my report for 1917 I said: 'The incidence of general paralysis is very high in the district served by this mental hospital, and when one bears in mind that this most fatal form of insanity is the direct result of syphilis, one is impressed with the great importance of the campaign against venereal disease. Since general paralysis is a late sequel of syphilis, its onset being usually from fifteen to twenty years after the primary lesion, we may not count on a sensible reduction in the number of cases of the disease for many years to come, but to the medical man in a mental hospital who daily sees the numbers not only of general paralytics, but of idiots, imbeciles and epileptics who are the sad results of syphilis, acquired or inherited, the problem of tackling the source of such misery and loss of useful lives is indeed an urgent one.' I regret that ten years later I can but repeat this statement."

St. Audry's Hospital for Mental Disease, Suffolk.—In the report for the year 1927, it is shown that the total number of patients in the hospital on December 31 was 1,034; in addition to this there were 40 female patients boarded out at Canterbury Mental Hospital, and it is proposed, as the official accommodation is already exceeded by 72 patients, to obtain further relief by boarding out patients at Kedington Institution at an early date. The admissions during the year were 175 (M., 86; F., 89), and the recovery-rate on the net admissions was 12·8% for the year.

The outstanding event of the year was the completion and occupation of the new nurses' home, of which an excellent plan is given, and Dr. Brooks Keith's views on the great advantage of this to every individual in the hospital are worth reproducing:

"But the building represents a great deal more than the provision of material comfort for the nurses. It is an outward and visible sign of the advances which are being made in the care and treatment of patients in mental hospitals in general, and of the efforts which are being made to institute a humanitarian hospital system in place of the old prison-like *régime* of the past. The insane are no longer regarded merely as anti-social units to be kept under lock and key for the safety and convenience of the general community. They are recognized as sick persons who can be restored to health by suitable treatment and by skilled nursing. Individual patients are closely studied and analysed by intelligent observation; the factors at work in the production of their particular form of mental aberration

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are sought, and where possible removed, and they are carefully classified and treated according to the stage of their illness.

"A striking result of treatment on these lines is the amount of freedom and absence of irksome restrictions which it is possible to grant with safety to selected patients, and the benefit of this is reflected in the general atmosphere of happiness and contentment which is so noticeable throughout the Hospital. But success in this direction depends upon the individual efforts of the nurse who has opportunities denied to all others of gaining an insight into the patient's mental condition, and whose personality must inevitably influence for good or evil the process of readjustment which is necessary to the restoration of the disordered mind. It is the intelligent observation, sympathetic understanding and tactful treatment by the nurse that we rely upon to replace the old methods of forcible restraint. The duties of the mental nurse become more and more exacting with the elaboration of modern methods of treatment, and call for efforts of patience, perseverance and self-control unequalled in any other branch of the nursing profession; indeed the mental strain resulting from constant association with the insane has to be experienced to be appreciated. In order to maintain the standard of service demanded by modern requirements it is essential that provision should be made for suitable rest and recreation for the staff between their periods of duty. Such facilities are amply provided for in the new home, and we look forward to a continuance of that loyalty, devotion to duty, and efficiency, which has so long been a feature of the nursing service here, and this at a lesser cost in terms of health to the staff."

SCOTLAND.

Aberdeen Royal Mental Hospital.—During the year 1927, 161 (M., 76; F., 85) certified patients were admitted to this institution, and there were 37 voluntary boarders, but only one parish sent a rate-aided voluntary patient.

"It is a matter of regret that more advantage is not taken of this method of dealing with those who are mentally ill, and who are not only willing, but often anxious to obtain appropriate treatment. As I have stated in previous reports, much valuable time is wasted because so many of these cases are not sent into a mental hospital until they are certifiable. This step may not be possible for a very considerable time after the illness has commenced, and when the disease may have passed into a chronic state. When a patient is treated in the early stages there is much more probability of recovery taking place, whereas, if the disease is confirmed, he may require to be maintained in a hospital for a great many years, thereby costing the public a large sum of money for his maintenance.

"Another point of importance which should be remembered is that if a person is entitled to the Old Age Pension, he receives it if he is a voluntary patient, but not if he is certified."

At the end of the year 788 patients remained on the register as against 794 at the beginning.

The chief forms of mental disease in the admissions were manic-depressive insanity, infection-exhaustion psychosis and dementia præcox, and there were 4 cases of general paralysis. Alcoholism was assigned as the cause in 15 cases, and venereal disease in 9 cases.

Referring to the treatment of general paralysis by malaria infection, Dr. Dods Brown states that so far no patient treated in this way at his hospital can be considered as improved sufficiently to enable him to be discharged, though the majority have benefited, both mentally and physically. Some of his cases were treated by the "protein shock treatment," but no definite results were obtained.

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Occupational therapy, under the supervision and direction of Miss Fulton and Mr. Wills, takes a prominent place in this hospital, and many specimens of craft work from this institution were seen and admired by members at the annual meeting of the Association in Edinburgh in July.

Dr. Craig was granted three months' study-leave in London during the year, and Dr. Annandale is at present in Vienna attending a special course of instruction in psychiatry and allied subjects.

Crichton Royal Institution, Dumfries.—The accommodation provided by this great institution is practically divided into three distinct departments, of which the first, or Crichton Hall department, is for the more affluent private patients, the second or intermediate department is for private patients of moderate means, and the third department is for private patients of still more limited means and the rate-aided patients of Dumfries and Galloway (corresponding to the ordinary county mental hospital in England).

On December 31, 1927, there were 990 (M., 475; F., 515) patients in residence, and during the year 299 cases were admitted, of whom 167 were voluntary patients. The recovery-rate for the year was 39·5% amongst the voluntary and 32·5% amongst the certified cases; the combined death-rate was 7·9% on the average number resident.

The chief constructional work during the year was the completion of "The Hospice" or new hospital for the Crichton Hall department.

Appended to the report is an interesting and valuable retrospect of the development of the institution during the last twenty years.

Glasgow Royal Asylum.—The report is for the year 1927, and shows that the total number of patients under treatment during the year was 671, the admissions were 138, and at the end of the year there were 518 patients resident in the institution, or 15 less than at the commencement.

60% of the admissions during the year were voluntary patients and the recovery-rate for the year was 37%. The death-rate for the year was 11·2, a large number of the deaths being accounted for by an epidemic of a febrile nature which was characterized by a streptococcal infection leading to septicæmia.

Dr. Henderson pleads with much eloquence for a closer study of the relationship of delinquency and mental defect, and disorder of conduct as an indication of a departure from health, indicating in this connection the benefits that would accrue to the community by the establishment in Glasgow of a psychiatric hospital in close touch with a general hospital:

(1) It would set a standard for psychiatric work throughout the country, and would act as a centre from which a constructive campaign regarding mental hygiene could be launched.

(2) It would form a centre to which acute cases, or cases difficult to solve, could be brought for advice; while suitable cases could be

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given a chance of recovery without necessarily having recourse to certification.

(3) It would deal with problem cases occurring in connection with the law courts, schools or charitable institutions, and it would be a link between medical and other types of institutions.

(4) It would act as a training centre for students and post-graduates who were anxious either to specialize in psychiatry or to take up general practice. Satisfactory courses of instruction could be instituted for those taking the diploma in psychiatry, and medical officers from mental hospitals could obtain intensive training which would keep them up to date.

(5) It would form a training centre for nurses, social workers, probation officers and all others interested in such problems.

(6) It would be a school of research into the causation, prevention and cure of mental illness.

Dr. Henderson expresses in no uncertain terms his views on the vexed question of the examinations for mental nurses.

"The standard of medical work is of the greatest importance, but of no less importance is the standard of nursing. A few years ago a Bill was passed to establish a General Nursing Council for England and Scotland, this Bill being known as the Nurses' Registration Act, 1919. The special feature of this Act is that all nurses in general hospitals, mental hospitals and fever hospitals take the same course of instruction in their preliminary subjects, and are allowed to be on special registers after having passed the final examination. Such a system of examination entails a uniform standard, and should help to improve the status of the mental hospital nurse. A mental hospital nurse who has passed her State examination is allowed to register, and is granted a year's exemption from her general hospital training. In the past our nurses have taken the examinations set by the Royal Medico-Psychological Association. This Association did most valuable work, by instituting such an examination, and by improving the standard of mental hospital nursing throughout the country. Many of us, however, feel that the examinations of the General Nursing Council open up a wider field, allow a more uniform system of training, and set a higher standard than the examinations of the Medico-Psychological Association. In consequence of this, in this hospital, we train our nurses to take the examinations of the General Nursing Council. Within the past few months there has been a certain amount of agitation set up by members of the Royal Medico-Psychological Association who wish their examinations to be continued, and to have conferred on them the same privileges as those obtained by the nurses passing the General Nursing Council examinations. It seems to me that the time has come when the examinations of the Royal Medico-Psychological Association have passed their best, and should be discontinued. We feel certain that the nurses themselves will benefit greatly by the improved training under the General Nursing Council."

Glengall Hospital, Ayr.—The number of certified cases at this hospital increased from 581 at the beginning of the year 1927 to 602 at the end, and during the year there were admitted 154 cases (M., 81; F., 73). This admission-rate is practically the same as the average of the quinquennium of thirty years ago.

"With reference to the admission of voluntary patients which is being increasingly adopted, I may say that a number of cases are being sent that are found, on examination, to be quite unsuitable, as the mental derangement is too far advanced to permit of the individual's exercising any free will in the matter. The whole object of the voluntary system is to afford treatment in the early stages when such volition is present, instead of delaying till the condition is sufficiently severe to require admission to hospital by the more involved procedure of certification.

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It was never meant to be an alternative or a substitute for certification, as relatives of cases so generally appear to believe. In spite of much sensational writing in support of popular prejudice regarding the 'stigma of certification,' even endorsed from unexpected quarters, I maintain that certification is a wise provision for the patient's welfare in mind, body and estate."

As regards causation, Dr. McRae points out the unreliability of statistics in connection with hereditary predisposition, and deplores the continued high figure for the incidence of general paralysis (the death-rate from which has averaged 12·2 for the last twenty years) in the areas served by his hospital. Regarding the chances of recovery amongst the admissions he makes the following pregnant remarks:

"As to the chances of cure of those admitted for the first time, only 16% had shown symptoms for any period less than three months; whereas in 64% of the men and 60% of the women the illness had become chronic, with poor chance of recovery, by having lasted for more than a year prior to admission. This marks a progressive worsening from 58% and 50% respectively two years ago. It has often been asked why, in spite of improved methods of both medical and nursing treatment in mental hospitals, the recovery-rate does not increase. The answer is that much less favourable material is sent for cure nowadays. The public are content to rely on the wireless S.O.S. for the 'recovery' of cases of neglected mental disease, whose failure to return home is euphemistically ascribed to 'loss of memory.' For the benefit of those journalists who persistently describe such disappearances as 'mysterious,' it may be mentioned that loss of memory is a common feature in nearly all cases of mental disease, and an intense desire to be alone or to get away from their associates is a characteristic symptom in persons suffering from depression."

James Murray's Royal Asylum, Perth.—This is the 101st annual report. During the year ending March, 1928, there were admitted 66 cases; 42 were discharged, and 14 died. The number remaining resident was 173, as compared with 137 three years ago.

The number of voluntary patients admitted was 42, as compared with 24 certified cases, and the percentage of recoveries was 39 in the former and 30·1 in the latter. Dr. Chambers considers that the more favourable results among the voluntary patients were due to the feeling of spontaneous co-operation which the knowledge of their status induces in them, and to the absence of irksome feelings of compulsion and restraint rather than to the earlier attention given to their illness.

He draws attention to the new situation which has arisen owing to the spread of the voluntary system. The public are bringing patients for admission on a voluntary basis who are quite unsuitable for this. Relatives object to certification. Attempts to provide for such cases without their own consent, and without proper legal authority, will undoubtedly lead to the appearance and growth of "homes" under private and anonymous proprietors, where the patients can be received, secluded and detained, and the result may turn out to be a serious check to the natural and healthy process of evolution in psychiatry. Weak, foolish sentimentalism on the subject is to be deprecated, and some form of legal machinery, which will be a safeguard to the patient, to his relatives and to medical men is indispensable in these cases, though Dr. Chambers has known

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no case where a medical man showed any desire to evade the responsibilities of certification.

The average residence of those patients who recovered was about ten months.

50 % of the attendants but only 18% of the nurses hold the R.M.P.A. nursing certificate. The State examination in mental nursing is unpopular, and only one nurse presented herself for it.

A complete central heating plant has been installed throughout the institution.

Royal Edinburgh Hospital for Mental and Nervous Disorders, Morningside.—On December 22, 1927, the Royal Assent was given to an Act by which the name of the Corporation was altered as above, and, as Prof. Robertson points out, this change of name marks a definite step forward.

In this report, for the year 1927 the subject-matter is considered under four headings: (i) Voluntary patients, (ii) the six nursing homes, (iii) the out-patient clinic, (iv) certified patients.

There were 148 voluntary admissions during the year, 41 were discharged recovered, and 78 relieved.

"The impression is fairly general that once a patient is admitted to a mental hospital his condition is more or less hopeless, but the fact that four out of five patients, who entered voluntarily, left within a twelvemonth is striking testimony to the contrary. An active movement of the population such as this acts beneficially on all the patients, and creates a hopeful and cheerful atmosphere. A little more success on these lines and the mental hospital will acquire as excellent a reputation as any other medical institution.

"Our experience of the benefits of voluntary treatment may be summed up in a very few words. We find that voluntary patients are admitted for treatment sooner than certified patients, that they come when their malady is more recent and less serious, that they are more contented to be treated, that their residence in the hospital is shorter, and that a larger proportion of them recover, though many leave before they are quite recovered. These leave when they feel themselves improving, and some, no doubt, complete their recoveries at home. More than a half have been ill for less than three months before coming for treatment, and more than a half of those who come suffer from melancholia. In these cases voluntary treatment leads to earlier recovery and the prevention of many suicides."

There were admitted to the six nursing homes 119 cases (M., 43; F., 76); 57 were discharged recovered, and 49 relieved or unrecovered.

"The majority of patients admitted to the nursing homes came for treatment of functional symptoms, which include states of neurasthenia, depression, anxiety, sleeplessness and nervous exhaustion. There were also a good many aged persons who were beginning to lose their memories, and to become confused. An average of 9 out of 10 patients admitted were afterwards discharged within the year, and nearly half of those who came were discharged recovered."

The weekly out-patient clinic at the Royal Infirmary is continued by Prof. Robertson and his deputy, and is evidently doing very valuable work of medical and social service. The new buildings at Jordanburn Hospital to which an out-patient clinic will be attached are not yet ready for occupation.

During the year 1927, 91 certified patients were admitted.

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"There are two outstanding features in the statistics dealing with certified patients. The first is the small number of admissions compared with the large resident population—the legacy of the past. Of 812 certified patients treated during the year only one-ninth were new admissions. In the second place, the number of removals by discharge and death exceeds the number of admissions, so that the certified population in the Royal Hospital is diminishing, and in the course of a decade may shrink to a half of what it is at present. It is respectfully suggested that the form of the official statistics should be recast with a view to recognizing these changes.

"The signs of the times indicate that the day of 'the certified lunatic' is fast drawing to a close in Scotland. No one need mourn. Our lunacy laws in the eyes of medical men are repellant and objectionable. They deal with the treatment of sick persons, yet they were drawn up by lawyers obsessed by a professional idea more or less in conflict with that object. What was it to the legal mind that through delay and formalities the individual lost his reason and became a burden for life, so long as that sacred abstraction, the liberty of the subject, was safeguarded against violation! Thus came certification with its attendant train of evils from a medical and curative point of view."

On the legislative action likely to occur as a sequence to the Report of the Royal Commission on Lunacy and Mental Dirorder, Prof. Robertson makes the following remarks:

"It seems only too probable that new legislation south of the Tweed will, in some important matters, be on lines seventy years behind Scottish procedure. The public in England is obsessed with the idea that a layman and not a medical man should always see the patient suffering from mental disorder to decide whether he should be treated in a mental hospital or not. Even the medical profession has largely acquiesced in this lay procedure in the futile hope that it would be relieved of some legal responsibility. In Scotland no layman ever sees the patient under these conditions; the responsibility of dealing with a difficult medical problem has been wisely left in the hands of the medical profession. This trust has not been misplaced: the public has not been let down, for there is no record in our law courts during the last seventy years of anyone being improperly detained in a mental hospital."

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Part IV.—Notes and News.

THE ROYAL MEDICO-PSYCHOLOGICAL ASSOCIATION.

THE EIGHTY-SEVENTH ANNUAL GENERAL MEETING of the Association was held on Wednesday, Thursday and Friday, July 11, 12, 13, 1928, at the West Riding Mental Hospital, Wakefield,* under the Presidency, in the earlier proceedings of Dr. Hamilton Marr, F.R.F.P.S.Glasg., and later of Prof. J. Shaw Bolton, D.Sc., M.D., F.R.C.P.

On Tuesday, July 10, the Council and Committees met as under:

Educational Committee	10 a.m.
Mental Nursing Advisory Committee	10.30 a.m.
Parliamentary Committee	11 a.m.
Research and Clinical Committee	12 noon
Revision of Journal Committee Mott Memorial Committee	12.45 p.m.
Council Meeting	2.30 p.m.

MORNING SESSION.—WEDNESDAY, JULY 11.

In the Lecture Hall of the Hospital.

Dr. Hamilton Marr, the retiring President, in the Chair.

1.† MINUTES.

Dr. J. R. LORD (acting for the General Secretary for the period of the Meeting) produced a copy of the Minutes of the Eighty-Sixth Annual General Meeting held at Edinburgh, from the *Journal of Mental Science*, October, 1927, and proposed that they should be taken as read and be confirmed and signed by the President.

[Agreed.

APOLOGIES FOR NON-ATTENDANCE.

Dr. LORD intimated that a number of letters of apology from members for non-attendance had been received. He continued: Sir John Macpherson writes—"In such historical surroundings and under Prof. Shaw Bolton's presidency, the meeting is sure to be successful, and I can only wish that it will exceed all expectations." Dr. C. Lovell refers to the alluring programme and expresses gratitude for the hard work and organization shown for the pleasure of members; Dr. M. J. Nolan expresses the indebtedness of Irish Lunacy services to Wakefield for giving them Dr. Maziere Courtenay, the pioneer of reform of treatment of the insane in Ireland; Sir Marriott Cooke refers to a recent heavy bereavement as his reason for being absent; I am sure he has all our sympathies. Dr. Donald Ross is unfortunately unable to travel because of an injured spine; Dr. R. R. Leeper sends the best wishes of the Irish Division; Dr. Helen Boyle regrets that she is unable to take part in a particularly interesting and attractive programme; Dr. J. Chambers cannot leave his wife who has met with a serious accident; no doubt the meeting would like an expression of sympathy to be sent to our esteemed Treasurer (Agreed). Work of an urgent and pressing nature does not allow of Dr. Worth's absence from London, and Dr. G. N. Bartlett, Dr. F. H. Edwards, Dr. Barton White, Sir James Crichton-Browne, Dr. W. Bevan-Lewis, Dr. Adele I. de

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* The Annual Meeting was last held at Wakefield in 1909, under the Presidency of Prof. W. Bevan-Lewis.

† Numbers refer to items on the Agenda.

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Steiger, Dr. Dorah E. Allman, Dr. F. R. Martin, Dr. Wolseley-Lewis, Dr. Porter-Phillips, Dr. R. W. Braithwaite and Dr. Kimber also write letters expressing regret that they are unable to be present.

DELEGATES FROM PSYCHIATRIC SOCIETIES ABROAD.

Dr. LORD said: In response to the invitation sent to foreign psychiatric societies to appoint delegates to attend this meeting, only a few have found it possible to accept, which is to be explained by the fact that the invitations did not go out until late. This delay was unavoidable for reasons which I gave to the Council, and which I need not repeat here. Dr. René Charpentier sends, but is unable to bring, greetings from France. Similarly, Dr. J. Bresler in regard to Germany. Dr. Chodzko, President of the Polish Psychiatric Society, finds himself unable to be present but sends his best wishes. Dr. Smith Ely Jelliffe, a delegate from the American Psychiatric Association may join us to-morrow (a wire was received later regretting he was detained abroad), but in any case that Association is well represented by the presence of Dr. Edward N. Brush. (Loud applause). There is also present Dr. Hans Evensen, President of the Norwegian Medico-Psychological Association. (Renewed applause). Prof. Ernest De Crane, of Brussels, sends the greetings of the Belgian Society of Neurologists and Psychiatrists, and similarly Dr. Forel those of the Swiss Society for Psychiatry. Prof. Wimmer, of Copenhagen, delegate from the Association of Danish Alienists, has arrived, and will be present this afternoon. Dr. W. Boven regrets his inability to be present and sends greetings from the Faculty of Medicine of that city.

Lastly, Dr. B. Rodriguez Arias, Secretary of the Spanish Association of Neuro-Psychiatrists, writes expressing his best wishes for a successful meeting.

OBITUARY.

The PRESIDENT said his next duty was a sad one, namely, to refer to the deaths of Dr. Shuttleworth and Dr. Mitchell. He continued:

Dr. George Edward Shuttleworth.

On May 28, 1928, there died at the ripe age of 86, Dr. George Edward Shuttleworth, a Fellow of King's College and Freeman of the City of London. Before his retirement, he was undoubtedly the leading authority on states of mental defect, and in 1895 wrote a standard work on the subject. The last edition was revised and brought up-to-date with the collaboration of Dr. W. A. Potts.

Dr. Shuttleworth acquired a world-wide fame. After a period of service at Earlswood Institution, he became medical superintendent of the Royal Albert Asylum, Lancaster, which post he held for twenty-three years, and brought that institution into a premier place among those of its kind.

Before and after his retirement he spent his spare time in arousing interest in the welfare of the mentally deficient and lived to see all that he hoped, prayed and worked for, to a large extent, come to pass. To no one person does the mentally defective owe so much as to Shuttleworth.

His next interest was the welfare of the staff employed in mental institutions. He became the soul of the Asylum Workers' Association, founded, I think, in 1895, with Sir Benjamin Ward Richardson, M.D., F.R.S., as President—an ambitious body, whose comprehensive membership finally proved its undoing. While it existed it did some good work and loyally co-operated with our Association in securing the passing of the Pensions Bill of 1908. Mental hospital employees should ever be grateful for the efforts of both Dr. Shuttleworth, who inspired the whole movement, and Sir William J. Collins, for a time Chairman of the Asylum Workers' Association, in securing for that Bill a place in the Statute Book. Further, in 1905, his Association took up the matter of the State registration of mental nurses. His ideal was a mental nurses' organization on strictly professional lines, which may yet come to pass.

He joined the Association in 1877 and was a wise, well-informed and hard-working member of our Parliamentary Committee. He served the Association well in this and many other respects. He was a quiet, self-restrained and unassuming man with great strength of character. Warm-hearted, sympathetic, always toiling for the good of others, especially the distressed and lowly placed,

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his passing ended a life rich in good works and left the world a better place to live in for many.

Dr. Richard Blackwell Mitchell.

Of Dr. Mitchell time does not permit me to say much. He was an ordinary member from 1881 to 1914, when he resigned on retirement from active hospital work. He took an active interest in the work of the Association and served for periods on its Standing Committees. He had been in retirement for fourteen years when he died on June 18, 1928. He graduated in medicine and surgery at the Edinburgh University in 1879, taking his M.D. in 1885, the year he became medical superintendent of the Midlothian and Peebles District Asylum, a post which he held for twenty-nine years. Prior to that, he served at the Fife and Kinross District Asylum, and was for a time senior assistant physician at the Edinburgh Royal Asylum.

He moved that the usual letters of condolence be sent. [Agreed.

Members rose in their places and stood silent for a moment as a sign of their sympathy and regret.

ELECTION OF OFFICERS OF THE ASSOCIATION FOR 1928–29.

The following motion was put from the Chair:

2. (*a*) That the Officers of the Association for 1928–29 be:

President.—J. Shaw Bolton, D.Sc., M.D., F.R.C.P.
President-Elect.—Nathan Raw, *C.M.G.*, M.D., F.R.C.S.E.
Ex-President.—Hamilton Marr, M.D., F.R.F.P.S.
Treasurer.—James Chambers, M.A., M.D.
General Secretary.—R. Worth, *O.B.E.*, M.B.
Registrar.—Daniel F. Rambaut, M.A., M.D.
Editors of Journal.—
J. R. Lord, *C.B.E.*, M.D., F.R.C.P.E.
Douglas McRae, M.D., F.R.C.P.E.
Thomas Beaton, *O.B.E.*, M.D., F.R.C.P.

[Agreed.

NOMINATED MEMBERS OF THE COUNCIL.

The following motion was put from the Chair:

2. (*b*) That the Nominated Members of the Council for 1928–29 be:
Drs. C. Hubert Bond, J. Brander, H. Dove Cormac, G. W. T. H. Fleming, D. K. Henderson, G. A. Lilly, and Sir Frederick Willis.

Dr. Lord said that at the last moment, Dr. F. H. Edwards had written stating that he was desirous of his name being withdrawn from nomination as a member of the Council. He had found that two of the Association's meetings usually occurred when he was abroad and unable to attend. He felt that somebody else could be found who would serve the Association better. He, the speaker, begged to nominate a candidate to take the place of Dr. Edwards, one he felt sure, who would be acceptable to all, namely, Sir Frederick Willis, *K.B.E.*, *C.B.* His (Sir Frederick's) presence was also desirable on the Parliamentary Committee.

[Agreed.

APPOINTMENT OF STANDING AND SPECIAL COMMITTEES.

The following motions were put from the Chair:

2. (*c*) That the Parliamentary Committee, as revised by the Council (Bye-law 73), be re-appointed:
Retire: Sir Robert Armstrong-Jones, Sir Maurice Craig, Drs. Fletcher Beach, W. D. Chambers, J. G. Porter-Phillips, C. J. Shaw, W. H. B. Stoddart, and D. Bower.
Added: Sir Frederick Willis, Drs. D. Blair, G. L. Brunton, W. Norwood East, A. T. W. Forrester, C. W. Forsyth, J. L. Gordon, W. Brooks Keith, R. MacKenzie Stewart, and F. Douglas Turner.

Dr. G. W. B. James proposed that Dr. Townsend and Dr. Cedric Bower be appointed members of the Parliamentary Committee.

Dr. Lord seconded. [Agreed.

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2. (*d*) That the Educational Committee, as revised by the Council, be re-appointed:

Retire: Sir Robert Armstrong-Jones, Sir Maurice Craig, Drs. Fletcher Beach, J. W. Geddes, B. Hart, J. G. Porter-Phillips, J. H. Skeen, and W. H. B. Stoddart.

Added: Drs. G. A. Auden, W. H. Coupland, A. T. W. Forrester, J. L. Gordon, E. H. Grills, John MacArthur, W. G. Masefield, D. McKinley Reid and F. M. Rodgers. [**Agreed.**

2. (*e*) That the Library Committee, as revised by the Council, be re-appointed:

Retire: Drs. Fletcher Beach, B. Hart and J. Keay.

Added: Drs. G. W. T. H. Fleming, W. McWilliam, and J. E. Nicole. [**Agreed.**

2. (*f*) That the Research and Clinical Committee (Nominated Section) be re-appointed.

2. (*g*) That the Revision of the Journal Committee be re-appointed. [**Agreed.**

2. (*h*) That the Mental Nursing Advisory Committee (Official Members) be appointed as follows (Resolution of Quarterly Meeting, February, 1928 [Bristol]):

For England and Wales.—Drs. H. Dove Cormac, Daniel F. Rambaut, F. R. P. Taylor, E. Barton White, and Henry Yellowlees (for R. Worth).

For Scotland.—W. M. Buchanan, John Keay, T. C. MacKenzie, Douglas McRae, and G. M. Robertson.

For Northern Ireland.—Drs. W. R. Dawson, N. B. Graham, M. J. Nolan, W. S. Smyth and J. Watson.

For Irish Free State.—Drs. J. O'Conor Donelan, L. Gavin, D. A. Kelly, R. R. Leeper, O. F. McCarthy.

Dr. LORD said that this list included Dr. Barton White, who was retiring as an examiner for the General Nursing Council of England and Wales.

The South-Western Division was very anxious that he should represent that Division on this Committee. His name had therefore been included, though at the moment he was not eligible. Dr. Lord suggested that the meeting should approve of this appointment, but to take effect only from the time his tour as examiner for the General Nursing Council terminated, which would be very shortly. Should the retirement be delayed, the Council had power, under the Bye-laws, to fill the vacancy. [**Agreed.**

Dr. H. YELLOWLEES said he was asked to suggest that it was somewhat unusual that there should be separate committees representing the National Divisions of the Association. Would it not be desirable that there should be one committee, with members on it from the various Divisions? The present arrangement seemed very cumbersome.

The PRESIDENT replied that the point did not arise because there was now only one committee, with sections representing nationalities.

Dr. YELLOWLEES rejoined that he was content.

2. (*i*) That the Maudsley Lecturer for 1929 be:

Charles E. Spearman, Ph.D., F.R.S., Grote Professor of the Philosophy of Mind and Logic, University College, London.

[**Agreed.**

3. (*a*) REPORT OF THE COUNCIL.

Although the Council of the Association dates from July 13, 1865, it was not until February 23, 1896, that the Council was requested to submit each year a formal report to the Annual General Meeting. The first Report of the Council is dated July 29, 1897; that for this year is the 32nd Annual Report of Council.

The President, before the reading of the Council's report last year, remarked that "the management of the affairs of the Association was in the hands of the annually elected Council," but he inadvertently omitted to add "subject to the Charter and Bye-laws," which is a vital point. The report which followed was a useful summary of the activities of the Association as a whole, and included work for which the Council was not directly responsible. The duties of the Council *per se* have never been adequately set out, but they are perhaps best defined in a report drawn up by a Committee of Revision of the Rules dated August 2, 1870, which recommended that "the Council be the Administrative Body of the

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Association for conducting all *ordinary* business thereof other than that falling to the members in General Meeting assembled."

However this may be, and although since that date Standing Committees have been gradually established and do an immense amount of work, it is nevertheless a fact that the Council is in touch with all the Association's work because every Committee and every officer regularly reports to it. It is thus in a particularly favourable position to summarize the Association's work for the year and, as the Council feels that such a summary is to the convenience of members, it proposes again this year to report briefly on the activities of the Association as a whole. In favour of this course it may also be advanced that it is a convenient way of bringing to the notice of the Annual General Meeting the business transacted at the Quarterly General Meetings, for which business the President or Council have a real responsibility in that Bye-law 101 puts it within the power of either to veto the taking of a vote on any matter discussed at such meetings.

The number of members—ordinary, honorary and corresponding—as shown in the list of names published in the *Journal of Mental Science* for January, 1928, was 754, as compared with 745 in 1927.

Number of new members elected in 1927	45
Number of members registered in 1927	754
Removed according to Bye-law 17	7
Number of members resigned in 1927	19
Number of deaths in 1927	10

Members:

	1918.	1919.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.
Ordinary	626	626	640	631	676	710	694	703	700	706
Honorary	32	26	24	25	27	30	29	29	30	31
Corresponding	17	9	9	10	13	14	16	16	15	17
	675	661	673	666	716	754	739	748	745	754

The year prior to that under report was one which saw the initiation of several important projects, not all of which could be completed during that year. Indeed much of the time of the past year has been spent in advancing, and in some cases completing these projects, and it will be convenient to deal with these first.

Vice-Presidents (Chairmen of Divisions).

The proposal made at the February meeting (Macclesfield), 1927, that there should be elected annually five Vice-Presidents, each of whom should be a Chairman of a Division, was submitted in detail, first to a panel of officers of the Association, afterwards to each Division. With a few minor amendments by the Scottish Division the scheme was approved by both and adopted at the February meeting (Bristol), 1927. Instructions were given that appropriate bye-laws and amendments to existing bye-laws should be drawn up for ultimate approval of this Annual Meeting. This has been done (*vide* Annual Meeting agenda, No. 5).

Past Presidential Badges.

The issue, authorized by the previous Annual Meeting, of the approved Past-Presidential badges to all living Past-Presidents desiring them, has been made, and its completion was reported to the May meeting (London), 1928.

The Gaskell Gold Medal and Prize.

A new Gaskell Gold Medal, which bears in relief the bust of Mr. Samuel Gaskell. has been struck. The medal was designed and the dies made by Messrs. W. & A. Mussett.

The difficulties in regard to the conditions of the award of this medal and prize are still the subject of inquiry. The Research and Clinical Committee, to whom the whole matter was referred, reported to the November meeting (London), 1927, recommending "That the Gaskell Gold Medal and Prize in future might be awarded for Research." The Council was favourable to this course, but doubted whether it was possible within the terms of the Bequest. A panel of three members, namely, the Treasurer, President-Elect and Dr. J. Greig Soutar, were asked to inquire into this aspect of the question. They submitted a comprehensive and

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searching report on the Gaskell Bequest at the May meeting (London), 1928, and expressed the opinion that the variation in the conditions of award made (after legal opinion) in 1924, by which a candidate might qualify for the prize by presenting a thesis only, was in their opinion not in accordance with the terms of the Bequest. This report was referred to the Educational Committee, with whom the matter of revision originally arose.

An alteration of the terms of the Bequest might involve expensive legal processes, but such would seem to be necessary if the award is to be made for research work only, and the Council has re-appointed the panel of members mentioned above, to make enquiries as to the probable cost of this course. In the meantime the Council recommends, as advised by the Educational Committee, an immediate return to the examination in psychiatry, morphology and pathology of the nervous system and psychology, of an Honours standard, as the sole condition, for it is generally admitted that to assess the relative values in marks of a written and oral examination and a thesis is difficult if not impossible.

The Advancement of Research and Clinical Psychiatry.

The standing Research and Clinical Committee was revived at the last Annual Meeting with an enlarged reference, and took over the carrying out, as far as it approved, of the recommendation of the Provisional Research and Clinical Committee of the previous year. To the new Committee was referred also the carrying out of the Resolution of the November general meeting (Horton), 1926, *re* establishment of Divisional Clinical Committees and meetings. In regard to the former, nine of the ten Sub-Committees on various subjects have been launched successfully, and the reference of the one remaining, *i.e.*, the Glossary Sub-Committee, is to be added to that of the Clinical Committee. In regard to the latter there has been a very satisfactory response in the Northern and Midland Division, where eleven clinical meetings have been held. The South-Western Division has also commenced to hold these meetings, but in the South-Eastern Division arrangements are not yet completed. The Scottish Division has doubled its ordinary meetings, two of which have for the future to be devoted almost entirely to clinical psychiatry. The Irish Division has been very active in this matter and clinical meetings will be commenced at an early date.

The Research and Clinical Committee, for reasons of economy in printing, etc., has aimed at securing some uniformity of administration in this matter. The meetings are duly reported in the *Journal*.

The May meeting (London), 1928, expressed its great satisfaction with the work this Committee had accomplished.

The British Medical Association and the Medical Staff of Mental Clinics.

It was officially announced at the November meeting (London), 1927, that the proposals of the Council of the British Medical Association discriminating between whole-time local authority medical officers and private practitioners and their eligibility for medical posts in mental clinics had not been sustained at the meeting of the representative body of that Association at Edinburgh.

Educational Matters.

Of the remaining questions dealt with during the year, undoubtedly that of the State Registration of Nurses holding the Association's mental nursing certificate occupies an outstanding place. The matter was raised during the discussion of the Educational Committee's report at the last Annual Meeting. A promise was made by the retiring President that action would be taken in this matter during the year to come—a promise which was promptly kept, as will now be shown.

The first step was to test the Association's view on the matter, and for this purpose a resolution, which bids fair to become famous, was tabled at the November general meeting (London), 1927, as follows:

"*Arising out of the Report of the Royal Commission on Lunacy and Mental* "*Disorders* (*p.* 107, *para.* 102) *and in accordance with the recommendations of the* "*Report of the Select Committee on the Registration of Nurses*, 1905, *para.* 22, *it is* "*resolved that the Royal Medico-Psychological Association make every endeavour* "*by negotiation, or failing that, by obtaining the insertion of a provision in any new* "*Lunacy Bill, to secure that the possession of the Certificate of Proficiency in Mental*

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"*Nursing of the Association entitles the holders thereof (both present and future) to "be registered, on payment of the fees, in the Mental Section of the Registers of Nurses "of the General Nursing Councils, and to enjoy all the privileges of registered mental "nurses; this to be without prejudice to any examination in mental nursing which "the General Nursing Councils may think fit to hold, and to be subject in the future "to such supervision and standard as the General Nursing Councils may think fit "to impose, as in the analogous case of the General Medical Council and medical "professional examinations.*" (Proposed by Prof. G. M. Robertson and seconded by Dr. J. R. Lord.)

Every effort was made to ensure that the decision of the coming meeting should really and truly express the views of the Association, and especially of the recognized training-schools. With this object in view, and to secure a thoroughly representative gathering of members, a preliminary circular letter (dated October 28, 1927), notifying the resolution to be proposed and asking for amendments, was sent to the medical superintendents of all mental hospitals, and to others who were known to take a keen interest in this question. The many letters received in reply were, with but few exceptions, strong expressions of opinion in favour of the resolution. At the meeting, after the resolution had been proposed and seconded, a motion was submitted as an amendment, which the President refused to accept as such, on the ground that no member present could fail to vote for it whether he agreed with the resolution or not, but another amendment, adverse to the resolution, was accepted, and the discussion proceeded. On the President's allowing (Bye-law 101) a vote to be taken, the amendment was negatived by a large majority, and, the resolution being put, 49 voted for and 13 against it. The meeting was assured by the President that the Council would take action without delay.

A special meeting of the Council was decided upon to discuss how the wishes of the Association, so definitely declared, could best be carried out, but before such a meeting could be at all in a position to deal with this matter, it seemed imperative that certain cardinal points on which individual members had from time to time expressed doubts should be first cleared up.

Accordingly on December 28, 1927, a letter was addressed to the Minister of Health, enclosing a copy of the November resolution and asking for specific replies to the following questions: (1) By what machinery the Rules of the General Nursing Council can be amended or revoked; (2) whether the same procedure under the Nurses' Registration Act of 1919, by which rules are made, can be used to amend or revoke them; (3) or whether an amendment to the Nurses' Registration Act would now be necessary before the General Nursing Council could accept the Certificate of Proficiency in Mental Nursing as qualifying for admission to the Supplementary Part of the Register for Mental Nurses.

A letter in similar terms was also addressed to the Scottish and Irish Public Health Authorities. A reply, dated January 20, 1928, received from the Minister was affirmative of question 2, and in regard to question 3 the Minister could express no opinion until the General Nursing Council had formulated a new rule on the subject.

It was also decided to address a questionnaire to all training-schools for mental nurses recognized by the Association, seeking definite information and guidance on certain matters which would need to be discussed with the General Nursing Councils at a later date. The *questionnaire*, with a covering letter, was circulated on January 19, 1928. At the same time suggestions for improvements in the Association's scheme of training and examinations were sought, and for the ready information of the training schools there was also enclosed a circular, "Notes on the General Nursing Councils' Scheme of Training and Examinations for Mental Nurses." The special meeting of the Council was held on February 15, 1928, at Bristol University. The following resolution was passed:

"*Proposed that the sections of the Mental Nursing Advisory Committee of the "Royal Medico-Psychological Association should confer and then meet conjointly "to consider the Resolution of November 17, 1927, and to decide what proposal it "should make to the General Nursing Councils to give effect to the above Resolution; "and to report to the Council also that the summary of the answers to the "Questionnaire re mental nursing be referred to the members of the Mental Nursing "Advisory Committee for their guidance.*"

It was ordered that the November, 1927, resolution should be communicated to the General Nursing Councils, and this was done in a letter dated March 12,

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which also conveyed to these bodies the exact situation as it stood at that time. An important outcome of the discussion at the special meeting was the decision to seek counsel's opinion on the Association's proposals, especially as to the legality of the General Nursing Councils' accepting any examination but their own for admission to their Registers. The Rt. Hon. Hugh Macmillan's opinion was obtained, and the following extract from it cleared up this point, about which some members still retained doubts:

"The Council are no doubt required to make Rules for regulating the conduct of any examinations which may be prescribed as a condition of admission to the Register, but they are nowhere required to prescribe any examination as a condition of admission.

"There being no express duty imposed on the General Nursing Council themselves to conduct any examinations, I do not think that any question arises as to their power to delegate to any appropriate body the conduct of qualifying examinations, on such conditions as they please."

It was thus satisfactorily established that the resolution of November, 1927, did not ask the General Nursing Councils to do what was either impossible or illegal.

The meeting of the Mental Nursing Advisory Committee to consider the reference from the special meeting of the Association took place on April 13, 1928, at Liverpool, and it reported to the Council on May 17, 1928, principally on the points to be embodied in the statement which would accompany the application to the General Nursing Councils to be made pursuant to the November, 1927, resolution of the Association.

A letter was received from the Registrar of the General Nursing Council for Scotland dated April 20, 1928, and subsequently forwarded by him to the nursing press for publication, proposing a meeting between that Council and representatives of the Association to discuss the whole matter. The Council, at the May meeting, agreed to this, and the Quarterly General Meeting of the same date sanctioned a similar meeting, if one could be arranged, with the General Nursing Council for England and Wales.

The letter from the Scottish General Nursing Council nowhere proposed to recognize the Association's certificate, and the solution offered of the problem was limited to the Association's ceasing to hold a Preliminary Examination, and accepting in lieu that of the General Nursing Council, the Final Examination to be conducted jointly. Successful candidates would obtain the certificates of both bodies.

The propositions regarding the Preliminary Examination were originally advanced by the Scottish General Nursing Council in 1924. The Council at the annual meeting of the Association of that year declined to discriminate against Scotland by ceasing to hold this examination in that country, and maintained that this condition was unnecessary for the avoidance of candidates for both certificates taking both preliminaries, as the Council proposed to accept the General Nursing Council's preliminary examination as an alternative to the Association's.

As to the proposal for a joint Final Examination, this apparently meant the establishment of an *ad hoc* examination to be recognized by both bodies, and the passing of it would not entitle the candidate to registration unless he or she had passed the Scottish General Nursing Council's preliminary. Obviously this was contrary to the specifically expressed views of the Association in the November resolution, and could not be agreed to without direct reference to the Association.

No mention was made in this letter of the fate of some 4,000 certificated mental nurses in the three countries who were debarred from admission to the State registers.

On the whole the solution offered by the Scottish General Nursing Council does not seem promising.

The only other point in the letter worthy of comment was the statement—"That in view of the terms of the Nurses' Registration Act, the case of the General Medical Council and the medical professional examinations to which you refer does not seem to my Council to be analogous to the position under that Act, and my Council consequently have difficulty in seeing how they could delegate to another body the right to conduct the State examination." On this latter point it may be remarked that the Association has never put forward the request to conduct a State examination. It considers itself to be an Imperial body, and that its Certificate is worthy of recognition by the State for registration. On the

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former argument, which received some support when the November, 1927, resolution was under discussion, it is illuminating to recall that in a petition to Parliament in 1907, promoted by the Society for the State Registration of Trained Nurses, which was largely signed by nurses in both general and mental hospitals, the following was one of the submissions: "That there is no Central Nursing Authority corresponding to the General Medical Council, which registers medical practitioners, and maintains discipline in the ranks of the medical profession, etc." So the idea underlying the assumption by the Association in the November, 1927, resolution that the General Nursing Council and the General Medical Council were analogous bodies, is no new thing.

The Council are of the opinion that the Association should adhere to its policy as expressed in the November resolution, which, though it provides machinery for carrying out the wishes of the General Nursing Councils regarding examinations, puts in the forefront the recognition, for registration, of the Certificate and all that it stands for, and not of either or both examinations. This is a well-defined policy from which the Association is not likely to be turned.

As an encouragement to the foregoing, intimation was received in May, 1928, *that the General Nursing Council of the Irish Free State was prepared to accept the Association's Certificate of Proficiency in Mental Nursing for admission to the Irish Free State Register, in regard to nurses holding that certificate since June*, 1925.

Accordingly the Council has appointed a Committee to meet and discuss the November, 1927, resolution with the General Nursing Councils, beginning with that for Scotland.

The Association's administration of its mental nursing educational activities is the subject of criticism from other nursing bodies, who complain that the Association affords no voice to the mental nursing profession in this matter, and that such an attitude is an anachronism in these modern days. Dr. Bedford Pierce, speaking at the November general meeting (London), 1927, said "In his opinion it was undesirable that doctors alone should decide important matters affecting the welfare of nurses. If the Association had nurses as associate members so that nurses and matrons were members of its Educational Committee, more might be said for Prof. Robertson's resolution." There is no doubt that a good number of members agree with him on this point. As an actual fact, the Association did take a step in this direction at the Annual General Meeting (Edinburgh), 1922, when it gave sanction to the appointment of nurse examiners. The question has arisen in some members' minds as to whether or not the time has come to incorporate in the Association's educational machinery a consultative body representative of the teaching staff of the recognized schools other than the physicians. To test the Association's views on this matter, the ex-President (Dr. J. R. Lord) submitted to the Educational Committee at the February general meeting (Bristol), 1928, the following motion: "(*a*) That each Division at its autumn meeting elect a matron, assistant-matron, or sister-tutor who holds the R.M.P.C. (and preferably doubly trained) to form an Advisory Committee to the Educational Committee on the training and examination of mental and mental deficiency nurses, which will meet once a year some time before the May quarterly general meeting, and on other occasions as the Educational Committee deems necessary, and that claims for reasonable travelling and other expenses incurred by attendance at these meetings be admissible and paid by the Treasurer. (*b*) That the meetings of such advisory committee be called by the Honorary Secretary of the Educational Committee. (*c*) That the Chairman, Vice-Chairman and Secretary of the Educational Committee be *ex-officio* members of such advisory committee, one at least of whom should attend its meetings." He urged that such a reform was overdue, and would place the Association in a better position to meet opposition in its application for the recognition of the nursing certificate for State registration purposes; but the motion met with considerable criticism and opposition, and the proposer failed to carry it as a permanent part of the educational machinery of the Association. An amendment was carried by 5 votes to 4 that such an advisory committee be called together some time before May, 1929, and on other occasions as the Educational Committee deemed necessary, but not annually.

The opposition was renewed on report at the Council meeting on the following day. Ultimately a motion by Dr. J. R. Lord, seconded by Dr. J. Greig Soutar, to agree with the proposal as amended by the Educational Committee—and with the additional amendment of the omission of the words "and preferably

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doubly trained," was carried. On this latter point the proposer of the motion said that the words were inserted in the original proposal in order to strengthen the Committee by having on it some experts in sick nursing.

The resolution of the Educational Committee and the Council's views on the matter were in due course communicated to the Divisions. The Northern and Midland Division at the May general meeting (London), 1928, recommended the addition of a representative of the male nursing staff to the proposed Advisory Committee, and after some discussion it was acceded that the *male tutorial nursing staff* should be represented in conformity with the strictly technical character of the Committee. The South-Western Division, however, declined to take any action in this matter until the pleasure of the annual meeting was known, there being in the Division "a strong feeling that it was an ill-advised and dangerous experiment which might have far-reaching results." The Council is unable to agree that it has given approval to a proposal to warrant such a criticism, but is still of the opinion that it would be wise to regard the first meeting of the proposed Advisory Committee as an experiment, which may lead to the setting up of a permanent body of this kind.

The Bristol quarterly meeting also approved administrative machinery for the carrying out of the resolution of the February general meeting (Macclesfield), 1927, and confirmed at the last annual meeting, in regard to the annual appointment of the Mental Nursing Advisory Committee. By this machinery all the official members, except the Chairman of the Educational Committee and the General Secretary, are nominated by the Divisions.

Appropriate regulations and rules for conducting the examinations were drawn up by a Sub-Committee of the Educational Committee in regard to the revised syllabus and course of training for the Certificate of Proficiency in the Nursing of Mental Defectives and sanctioned at the last annual meeting. They received the approval of the Educational Committee and Council at the November general meeting (London), 1927, with effect from that date. A book of regulations common to both nursing certificates of the Association, with separate syllabuses and rules for conducting the examinations for each certificate have been issued to all recognized training-schools. They have also been made available to students and others at a small cost on application to the Registrar, and a large number have been sold. The Council has requested the Educational Committee to consider and report on the question of publishing a separate handbook for those nursing mental defectives, to cover as far as possible, the grounds of the new syllabus to which reference is made above.

The circulation of the questionnaire was productive of a number of important suggestions from the recognized training-schools for improving the examination and training of candidates for the Association's certificate in mental nursing. These suggestions have been referred by the Educational Committee to a special sub-committee for consideration and report.

The Council has authorized the issue by the Registrar, on payment, of a brooch bearing the words "Royal Medico-Psychological Association" and "Certificated Nurse" encircling the Maltese cross of the nursing medal for the use of male and female nurses, entitled to wear the latter.

Parliamentary Matters.

The Council deplores the Government's delay in introducing legislation to improve and modernize the lunacy laws, and there has been no Parliamentary activity of particular interest to the Parliamentary Committee except the Act amending the Mental Deficiency Act of 1913.

The Committee has concluded its examination of the Report of the Royal Commission in Lunacy and Mental Disorders. The Council agree with the Educational Committee in regretting that the Commission has not specifically recognized the "non-volitional" case of mental disorder in its recommendations regarding early treatment. It joins with that Committee in condemning the repeated intrusion of the Justice in the suggested "Provisional Treatment Order."

It is appropriate here to refer to the retirement of Sir Frederick Willis from his position as chairman of the Board of Control (England and Wales). His co-operation with the Association, especially as regards Parliamentary matters and his presence at Parliamentary Committee meetings, is a valuable asset which the

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Council hopes will not be lost. Opportunity was taken at the February general meeting (Bristol), 1928, to pay a tribute to this distinguished servant of the State for the great work he had done for the mental hospitals and the welfare of the mentally afflicted generally, and a motion expressing regret at his retirement from the Board was unanimously adopted.

In view of the character of the Royal Commission's recommendations regarding the certification of mental cases the Council is of the opinion that a new situation has arisen, and that it would be proper for the Association to put forward radically amended, if not entirely new, recommendations on this matter. The Council has asked the Parliamentary Committee to consider this point in order to take appropriate action. A painstaking historical *résumé* on this subject, which appeared in the *Journal of Mental Science*, may be helpful in formulating new recommendations.

The Report of the Departmental Committee on the Superannuation of Local Government Officers is still under consideration, and is the subject of joint conferences between interested bodies of which one is the Association. The general feeling of the Council at the moment is that mental hospital employees will fare better in regard to superannuation by seeking amendments to the Asylums Officers' Superannuation Act, 1909.

The Council, on the recommendation of the Parliamentary Committee, has sanctioned the employment of a Parliamentary Agent, at an annual fee, in order that the Parliamentary Committee may have an earlier knowledge of impending legislation affecting matters of import to the Association.

The Library.

The re-indexing of the library has been completed and a new catalogue issued. The Council has referred to the Revision of the Journal Committee a suggestion by the Library Committee regarding the remuneration of reviewers and the disposal of books received by the Journal for this purpose.

The Journal of Mental Science.

The Revision of the Journal Committee has been mainly occupied in supervising the production of the first number of the proposed monograph series. Substantial progress has been made, and publication is to be expected in the autumn of this year. The Council suggest the reappointment of this special committee for another year.

The Mott Memorial.

Satisfactory progress has been made with the *Mott Memorial Book*, which the Council decided should be the form the Memorial to the memory of Sir Frederick Mott should take. The Committee appointed to carry this out will continue its labours until the matter is concluded. The Committee have appointed Dr. J. R. Lord editor and Messrs. H. K. Lewis publishers of the book, which is now in the press.

A fund was opened to finance the project, with Dr. J. Chambers as treasurer. The amount of donations up to date is £220 16*s.* 10*d.*

Revision of the Bronze Medal and Honorary and Corresponding Members' Diplomas.

The President authorized Dr. J. R. Lord to supervise, subject to report to the Council, the revision of the Bronze Medal and Honorary and Corresponding Members' Diplomas. The Council has approved the new medal and honorary members' diploma.

H.R.H. Princess Mary, Viscountess Lascelles.

At the May general meeting (London), 1928, on the motion of the President, it was unanimously resolved that subject to her pleasure being known, the Nursing Medal in gold and Certificate of Proficiency in Mental Nursing (Honorary) should be conferred on H.R.H. Princess Mary, Viscountess Lascelles, as a tribute to the great interest and sympathy she is extending to the welfare of the mentally afflicted.

New Year's Honours, 1928.

The Council noticed with much gratification that the services of those nursing the mentally afflicted were again recognized in H.M. New Year's Honours for 1928.

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Obituary.

The Council heard with regret of the deaths of Il Senatore Leonardo Bianchi (April 13, 1927), Sir H. Bryan Donkin (July 27, 1927), Sir David Ferrier (March 19, 1928), honorary members, and of Drs. J. C. C. Reed (August 2, 1926), A. Lawrence (November 23, 1926), F. W. Apthorp (March, 1927), J. W. S. Christie (October 17, 1927), J. Carlyle Johnstone (November 5, 1927), H. A. Layton (December 8, 1927), H. M. Eustace (December 21, 1927), W. B. Morton (January 9, 1928), G. E. Shuttleworth (May 28, 1928), all ordinary members at the time of death.

The Council also heard with regret of the deaths of the following past members: Dr. A. Simpson (March 27, 1928), L. R. Oswald (March 24, 1928), and R. B. Mitchell (June 18, 1928).

J. R. LORD,
for General Secretary.

Dr. J. R. LORD, in moving the adoption of the report, said that last year the report was a general summary of the activities of the Association during the year. It proved so much to the convenience of members that this year the action had been repeated. The draft report, previously circulated, had been gone through in detail by the Council on the previous day, and was approved for consideration of this general meeting. Each member had been supplied with a copy, so there was no need for him to read out every word. He would content himself with drawing attention to the chief points. The first part was historical, and gave the reason for preparing an extended report.

With regard to the Gaskell Gold Medal and Prize, the difficulty experienced in assessing marks for the clinical examination, as compared with a thesis, had proved unsurmountable. The Council recommended that there should be a reversion to the old conditions and that the resolution of 1924 should be rescinded. [**Agreed.**

With regard to the advancement of research and clinical psychiatry, the work done by the new Research and Clinical Committee, stimulated by the Divisional Clinical Meetings, was favourably commented on. (Applause.)

There was a long report on educational matters; it was mainly a record of facts, with but little expression of opinion. It had been thought wise—and the Council approved—that a historical statement describing exactly what the Council had done in this matter since the November 1927 resolution be incorporated in the report. It would be issued at once for the information of members. [**Agreed.**

The Council had appointed a Committee to meet and discuss the November 1927 resolution with the General Nursing Councils, beginning with that of Scotland, and the "first round," it was hoped, would take place shortly, perhaps within the next fortnight. [**Agreed.**

It would be seen that at the February meeting (Bristol) 1928 it was decided to have the advice of an advisory committee to the Educational Committee, consisting of representative teachers in the nursing schools, as to the actual teaching of mental nursing. It was suggested that the first meeting of the advisory committee should be in the nature of an experiment, which, if successful, might be confirmed by the Association and become part of its permanent educational machinery. [**Agreed.**

In the report was announced the satisfactory conclusion of revision of the course of training and examination syllabus for mental deficiency nurses.

The Council had referred to the Educational Committee the question of publishing a hand-book in mental deficiency nursing, to cover the ground of the new syllabus to which the speaker had just referred. [**Agreed.**

Another nursing matter of some interest, namely the proposal by the Council, that the Association should authorize the issue by the Registrar, on payment, of a brooch bearing the words, "Medico-Psychological Association, Certificated Nurse," to those nurses holding either or both the Association's Nursing Certificates. [**Agreed.**

In regard to Parliamentary matters, he wished to draw particular attention to the following paragraph in the report. It ran: "In view of the character of the Royal Commission's recommendations regarding the certification of mental cases, the Council is of the opinion that a new situation has arisen, and that it would not be improper for the Association to put forward radically amended,

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ROYAL MEDICO-PSYCHOLOGICAL ASSOCIATION.—For the Year 1927.

REVENUE ACCOUNT—January 1st to December 31st, 1927.

Dr. **Expenditure.**

1926.				£ s. d.	£ s. d.
£ s. d.					
1092 18 3	To	Journal—Printing, Publishing, Engraving, Advertising, and Postage	1122 12 1		
1616 9 4	,,	Examinations, Association Prizes, and Clerical Assistance to Registrar	1788 0 7		
17 18 6	,,	Petty Disbursements, Stationery, Postages, etc.	26 0 5		
237 18 0	,,	Annual, General, and Divisional Meetings ...	327 10 5		
86 10 10	,,	Rent of Premises and care of Offices	80 0 0		
12 12 0	,,	Audit and Clerical Assistance	12 12 0		
567 0 10	,,	Miscellaneous Account	363 12 9		
				3720 8 3	
950 19 9		Balance		974 17 11	
4582 7 6				£4695 6 2	

Income. **Cr.**

1926.								
£ s. d.				£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
307 2 4	By	Dividends—General			333 8 4			
302 10 0	,,	Sale of Journal		308 18 4				
144 3 0	,,	,, Handbook		114 10 0				
7 10 4	,,	Statistical Forms, etc.		4 2 1				
26 4 8	,,	Advertisements		25 4 0				
					452 14 5			
2634 1 6	,,	Fees for Certificates of Psychological Medicine ... Certificates of Proficiency in Nursing ...			2757 15 0			
1145 16 6	,,	Subscriptions			1138 14 6			
24 19 2	,,	Interest on Deposit			12 13 11			
						£4695 6 2		£4582 7 6

BALANCE-SHEET—31st December, 1927.

Liabilities.

1926.				£ s. d.	£ s. d.
£ s. d.					
349 11 8	To	Journal Account, balance of	377 5 10		
40 1 0	,,	Meetings Account, balance of	90 14 2		
40 0 0	,,	Rent Account, balance of	40 0 0		
76 9 3	,,	Miscellaneous Account, balance of	32 11 0		
159 9 8	,,	Gaskell Account Dividends	182 13 10		
3 14 0	,,	,, ,, Income Tax	3 14 0		
39 1 6	,,	,, ,, Prizes, etc.	—		
129 11 2	,,	Maudsley ,, Dividends	154 17 1		
21 2 0	,,	,, ,, Income Tax	21 2 0		
41 17 2	,,	,, ,, Printing, etc.	—		
21 8 0	,,	Dividends ,, Income Tax	24 6 0		
—	,,	Examinations Account, balance of	549 16 7		
25 0 0	,,	Library Account, balance of	25 0 0		
16 10 7	,,	Asylum Workers' Convalescent Fund ...	13 10 7		
				1515 10 1	
963 16 0					
9117 0 10		Balance as at 1st January, 1927 ...	10,000 5 5		
950 19 9		Add Balance as per Revenue Account ...	974 17 11		
—	,,	Increase in Value of Investments ...	157 13 1		
			11,132 16 5		
11,031 16 7					
	Deduct:				
£ s. d.		Subscriptions written off ... £68 15 0			
57 0 4		Decrease in value of Investments ... —			
10 14 10					
			68 15 0		
67 15 2				11,064 1 5	
£10,964 1 5				£12,579 11 6	

Assets.

1926.				£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
£ s. d.								
1170 16 4	By	Lloyds Bank :—Bankers			444 11 6			
400 0 0	,,	Deposit Account, General			400 0 0			
18 2 2	,,	,, ,, Interest due			5 3 7			
15 1 2	,,	Sales Account, balance of			55 18 0			
354 18 0	,,	Subscriptions Account, balance of			273 5 0			
31 12 0	,,	Library Account, balance of			149 17 10			
—	,,	Fees Account, balance of			749 13 0			
	,,	Stocks, value at this date:						
539 5 0		£634 8s. 3d.	New Zealand, 3½ *per cent.* Stock, 1940 ...	551 18 9				
272 12 6		£320 14s. 8d.	Ditto, ditto (Hack Tuke)	279 0 9				
72 7 0		£103 7s. 2d.	Victoria, 5 *per cent.* Stock, 1929–49 (Dr. Paul)	74 8 4				
134 4 6		£213 18s. 1d.	Manchester Corporation, 3 *per cent.* Stock...	134 15 2				
284 2 8		£405 18s. 1d.	New South Wales, 3½ *per cent.* Stock, 1930–50	304 8 6				
287 11 5		£386 0s. 0d.	London, Midland and Scottish Railway, 4 *per cent.* Pref. Stock	283 14 2				
1880 7 4		£1864 1s. 2d.	War Loan, 5 *per cent.* Stock, 1929–47 ...	1887 7 2				
5503 1 4		£7272 1s. 3d.	Convers on Loan, 3½ *per cent.* Stock ...	5599 9 9				
—		£1800 0s. 0d.	Ditto, ditto (purchased in 1927)	1380 0 0				
						£12,579 11 6		£10,964 1 5

(*Signed*) JAMES CHAMBERS, Hon. Treasurer.
(*Signed*) DUJARDIN, BOLT & Co.

G. F. BARHAM
CEDRIC W. BOWER } Hon. Auditors.

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MAUDSLEY BEQUEST.

1927.	Dr. Expenditure.	£ s. d.	£ s. d.
Jan. 18.	To Cash—Income Tax ...	21 2 0	
Feb. 7.	„ „ Adlard & Son ...	41 17 2	
			62 19 2
Aug. 6.	To Cash—Lecturer's Honorarium		52 10 0
„ 30.	„ „ Advertisements ...		5 6 0
Oct. 7.	„ „ „ ...		1 8 9
Dec. 31.	„ Amount owing		21 2 0
„	„ Balance (Dividends) ...		154 17 1
			£298 3 0

1927.	Income.	Cr. £ s. d.
Jan. 1.	By Balance (owing)	62 19 2
Jan. 1.	By Balance (Dividends)	129 11 2
June 1.	„ Cash—Half-year Dividend on War Stock	52 16 4
Dec. 1.	„ „ „ „ „	52 16 4
		£298 3 0

GASKELL FUND.

1927.	Dr. Expenditure.	£ s. d.	£ s. d.
Jan. 18.	To Cash—Income Tax ...	3 14 0	
Feb. 5.	„ „ Examiners' Fees ...	4 4 0	
„ 14.	„ „ „ „ ...	2 12 6	
„ 14.	„ „ R.M.P.A.	1 11 6	
Mar. 1.	„ „ Prize	30 0 0	
May 27.	„ „ Engraving Medal ...	0 13 6	
			42 15 6
Mar. 1.	To Cash—Prize		30 0 0
„ 11.	„ „ Examiner's Fees ...		4 4 0
„ 11.	„ „ „ „ ...		4 4 0
Dec. 31.	„ Amount owing—Income Tax		3 14 0
„ 31.	„ Balance (Dividends) ...		182 12 10
			£267 10 4

1927.	Income.	Cr. £ s. d.
Jan. 1.	By Balance (owing)	42 15 6
Jan. 1.	By Balance	159 9 8
„	„ Cash—Half-year Dividend on New Zealand 3½ *per cent.* ...	19 6 7
Apr. 1.	„ „ Half-year Dividend on New South Wales 3 *per cent.*	4 1 0
June 1.	„ „ Half-year Dividend on War Loan	9 5 0
July 1.	„ „ Half-year Dividend on New Zealand 3½ *per cent.* ...	19 6 7
„	„ „ Half-year Dividend on New South Wales 3 *per cent.*	4 1 0
Oct. 1.	„ „ Half-year Dividend on War Loan	9 5 0
		£267 10 4

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if not entirely new, recommendations on this matter." The Council had referred this paragraph to the Parliamentary Committee for consideration and report.

[Agreed.

Another interesting recommendation was that the Association should sanction the employment of a Parliamentary agent, at an annual fee, so that the Parliamentary Committee would have a much earlier intimation of impending legislation affecting the care and treatment of the mentally afflicted than hitherto.

[Agreed.

There was also a reference to the decision of the May, 1928, general meeting to bestow on H.R.H. Princess Mary (Viscountess Lascelles) the Nursing Medal in gold and the Certificate of Proficiency in Mental Nursing (Honorary).

[Agreed.

He moved that the Report of the Council be approved.

Dr. F. R. P. TAYLOR seconded. [Agreed.

3. (*b*) REPORT OF THE TREASURER.

Dr. J. R. LORD, for Dr. Chambers, read this Report, and moved its adoption.

I beg to present the Revenue Account and Balance-sheet for the year 1927, and financial statements as to the Maudsley Bequest and Gaskell Funds. £1386 has been disbursed during the year in purchasing £1800 Conversion Loan 3½% Stock.

The credit balance in the current account up to July 4, 1928 was £598 16*s.* 3*d.*

The Mott Memorial Fund on July 9 stood at £193 19*s.* (£220 16*s.* less £26 17*s.* expended).

J. CHAMBERS,
Hon. Treasurer.

Dr. NATHAN RAW seconded. [Agreed.

3. (*c*) REPORT OF THE EDITORS.

Dr. J. R. LORD read the Editors' Report, and moved its adoption.

The Editors beg to submit their Annual Report for the year 1927.

The following table shows the cost of publication of the Journal under various heads as compared with that of the previous year:

Analysis of Cost of Journal 1926–1927.

1926.							1927.					
£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.
669	14	10				Printing of Text . .	702	5	3			
31	12	0				Illustrations . . .	40	10	4			
72	5	6				Paper for Text . .	72	19	6			
18	13	9				Cover and Advertisements	40	4	8			
66	3	1				Binding . . .	64	19	6			
			858	9	2					920	19	3
71	11	2				Reprints . . .	75	6	9			
35	18	5				Wrappers . . .	10	17	8			
48	4	4				Despatch . . .	43	9	4			
			155	13	11					129	13	9
11	1	6				Stationery . . .	14	4	0			
17	3	6				Postage . . .	18	9	4			
10	10	0				Index . . .	8	8	0			
			38	15	0					41	1	4
40	0	0				Publishers Fees . .	40	0	0			
			40	0	0					40	0	0
			£1,092	18	1					£1,131	14	4

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£ s. d.	£ s. d.	*Credit.*	£ s. d.	£ s. d.
302 10 0		Sale of Journal, etc. .	308 18 4	
26 4 6		Advertisements . .	25 4 0	
	£308 14 6			334 2 4

Cost of Journal.

1926.		1927.
5*s.* 1½*d.*	Cost of Production of Journal per copy	5*s.* 4½*d.*
3*s.* 6½*d.*	Cost to Association of Journal per copy	3*s.* 9½*d.*
855	Size of Journal in pages	792

Printing cover of Journal, now charged to "Cover and Advertisements."

The increase in the cost of production was incurred almost entirely under the headings of "Printing" and "Illustrations," and was due to the increase in the number of articles of a clinical or laboratory research character. Twelve articles of the former and five of the latter appeared during the year. Such articles usually mean illustrations and costly printing of tables, dated notes of cases, etc. The Editors make no complaint of this for, in their opinion, the greater value of contents is worth the increased expenditure.

It is useful from time to time to record the financial relations of the Association with the Journal.

In 1927 the number of Journals printed was 4,200, which, with the exception of about 6 copies, were disposed of during the year. Of these (4,200), 2,824 were supplied to 706 ordinary members, from whom was collected the sum of £1,111 19*s.*, in subscriptions, 124 copies were supplied gratis to Honorary members, and 145 copies fell to the Exchange and Free List. The remainder were sold to private subscribers for which the Association received £308 18*s.* 4*d.* The income from subscriptions, plus the latter, amounts to £1,420 7*s.* 4*d.*, and to this must be added £25 4*s.* credits from advertisements. This brings the total to £1,445 11*s.* 4*d.* The cost of the publication of the Journal for the year was £1,132 14*s.* 4*d.* There is thus a surplus of £312 17*s.* available to the Association for expenditure in other directions.

Bye-law 53 reads: "After the payment of the ordinary working expenses of the year of the Association, including the publication of the Journal, the surplus funds in the hands of the Treasurer may be appropriated in special aid of the Journal in such amounts as the Council may from time to time determine."

Advantage was taken of this provision by the Grant of £150 for the production of a further volume of the General Index covering the years 1909 to 1922, and £100 for the publication of the first volume of the Monograph Series. The latter, however, may be a source of income. The Index was issued gratis to members and the charge to subscribers was fixed at 2*s.* 6*d.* per copy. The cost of the Index to the Association namely, £119 13*s.* 6*d.*, would have been much larger but for the voluntary labours of Drs. T. W. and C. E. F. McDowall, for which the Editors desire to record their appreciation and thanks.

The Editors do all they can to stimulate clinical and pathological research and will continue to administer the Journal with this object. Space will be found for full reports of the Divisional Clinical Meetings and for reports from the Research and Clinical Committee and its sub-Committees.

The Editors appreciate the importance of a complete index of current literature on psychiatry, psychology and neurology, which is borne out by the steady increase in the number of the epitomes published in the Journal. These, in 1927, numbered 279, as against 259 in 1926.

Adequate reviews of books is another valuable source of information to research workers. During the year 41 books were reviewed, an increase of 8 over the previous year. The Editors would welcome the assistance of the members of the Research and Clinical Sub-committees in both these directions, as suggested by the Chairman of the Research and Clinical Committee.

The Editors again desire to record their gratitude to those epitomizers and reviewers who give their services so willingly to this work. Such work, though of the greatest value to the Journal and to the Association, brings a personal reward to those who engage in it, by keeping them constantly acquainted with the latest trends in psychiatry. Members should need no inviting to send to the

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Journal epitomes of interesting articles, especially those appearing in publications not ordinarily available.

Other matters affecting the conduct of the Journal are dealt with in the Report of the Revision of the Journal Committee, and need not be mentioned here.

The Editors have taken steps to stimulate publishers to advertise books of psychiatric interest in the Journal.

The Editors, after consulting the Council, appointed, on May 16, 1928, Dr. Alexander Walk to be Assistant Editor of the Journal.

J. R. LORD
(*for the Editors*).

Dr. McRAE seconded.

[Agreed.

3. (*d*) REPORT OF THE AUDITORS.

Dr. CEDRIC BOWER read this Report, and moved that it be adopted.

We, the undersigned, having examined the Treasurer's books, and having duly compared and scrutinized receipts and vouchers, hereby certify that the Accounts and Balance-sheet, as set forth, represent a true statement of the Royal Medico-Psychological Association's finances for the year 1927.

G. F. BARHAM
CEDRIC W. BOWER } *Hon. Auditors.*

Dr. McDOWALL seconded. [Agreed.

3. (*c*) REPORT OF THE REGISTRAR.

Dr. D. F. RAMBAUT read this Report, and moved its adoption.

[Abstract.]

As I reported at the May meeting the total number of entries for the May, 1928, examinations was 4,001. Of these, 2,481 were for the Preliminary and 1,520 for the Final.

Of the former 161 and 118 of the latter were entries for the Mental Defective Section.

Of the 2,481 candidates for the Preliminary Examination 1,490 were successful (60·05%). This is almost 9% higher than in the November, 1927, examination and also in the May, 1927, examination.

The following table gives the number of entrants and the number of successful candidates from the various classes of mental institutions for the Preliminary Examinations:

Class of Institution.	Entries.	Passes.	Percentage.
English County Mental Hospitals	1,462	810	55·40
English Borough Mental Hospitals	290	174	60·00
Registered Hospitals and Licensed Houses	141	91	64·53
Scottish Mental Hospitals	264	192	72·72
Irish Mental Hospitals	163	105	64·41
Mental Defective Institutions	161	118	73·29
Totals	2,481	1,490	60·05

I regret I cannot give the results of the Final Examinations. Although the majority of the institutions have received their results there are still some that cannot be notified. The bulk of the marking was finished in record time at this examination, both Preliminary and Final, but some of the Examiners have not worked quite so quickly as the others; in addition to which the new rule of reassessment of papers where the marks are between 40 and 50% tends to delay matters considerably.

I hope to issue all of the results within the next week.

There were three candidates for the Gaskell Prize and Medal, which was won by Dr. F. R. Martin of Long Grove Mental Hospital, Epsom.

The Professional Examiners report that Dr. N. Moulson, of Winwick Mental Hospital, qualified for the Certificate in Psychological Medicine.

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There was one entry for a Divisional Prize, but the Examiners did not consider it was up to the standard necessary for the Prize. The President concurred in this.

DANIEL F. RAMBAUT,
Registrar.

Dr. R. F. P. TAYLOR seconded. [**Agreed.**

3. (*f*) REPORT OF THE EDUCATIONAL COMMITTEE.

Dr. W. M. BUCHANAN (for Dr. Kimber) read this Report, and moved its adoption.

The Educational Committee beg to submit the following Report for the year ending July, 1928.

Four meetings have been held during the past twelve months.

Regulations and Rules for the Training and Examination for the Certificate of Proficiency in the Nursing of Mental Defectives have been drawn up by the Training Sub-Committee in accordance with the recommendations of the report of the Sub-Committee appointed February 11, 1926. This necessitated a revision of the Rules and Regulations and Syllabus of Training of the Certificate of Proficiency in Mental Nursing, which was also carried out by the Training Sub-Committee. All these duly received the approval of the Council and are now in force.

The Committee has approved the formation of an Advisory Committee to advise on matters connected with the Training and Examination of Nurses. It will consist of a Matron, Assistant-Matron or Sister-Tutor holding the R.M.P.A. Certificate, elected by each division. The male Tutorial Nursing Staff will be represented on it, and the officers of the Educational Committee will be ex-officio members. It is suggested that it will meet sometime before the May meeting, 1929, and afterwards from time to time as the Educational Committee may deem expedient.

The following institutions were recognized during the year :

For the Training of Mental Nurses—

Dundee Royal Asylum, Middleton Hall, Co. Durham (for Male Nurses, already recognized for Female Nurses). The Lawn, Lincoln (for Female Nurses only).

For the Training of those Nursing Mental Defectives : The Western Counties Institution, Starcross.

The Gaskell Medal and Prize for 1928 was awarded to Dr. F. R. Martin, of Long Grove Mental Hospital.

The number of Candidates who presented themselves for the Nursing Examinations during the year was :

For the Certificate of Proficiency in Mental Nursing—Preliminary, 3,796 ; Final, 2,348.

For the Certificate of Proficiency in Nursing Mental Defectives—Preliminary, 303 ; Final, 171.

In the previous year the figures were—Preliminary, 3,479 ; Final, 2,392.

F. R. P. TAYLOR, *Chairman.*
W. J. T. KIMBER, *Secretary.*

Dr. R. F. P. TAYLOR seconded. [**Agreed.**

3. (*g*) REPORT OF THE PARLIAMENTARY COMMITTEE.

Dr. G. W. B. JAMES submitted this Report, and moved its adoption.

Your Committee has met on five occasions during the year ending July, 1928. The Committee has suffered a sad loss by the death of Dr. G. E. Shuttleworth, a member of the Association since 1877, and for many years a member of the Parliamentary Committee.

At the May General Meeting (London), 1927, a Sub-Committee was appointed consisting of the following members : Drs. C. H. Bond, J. F. Dixon, G. W. B. James, J. R. Lord, E. Mapother, Nathan Raw, G. M. Robertson, J. G. Soutar, F. R. P. Taylor and R. Worth, to "consider the Report of the Royal Commission on Lunacy and Mental Disorder, and to prepare a memorandum containing its views and criticisms on the Report." The work of the Sub-Committee has been

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completed in three further meetings, and its memorandum was presented to the Parliamentary Committee at the February Meeting (Bristol), 1928. This Committee has made several amendments to the original memorandum, which was finally adopted, as amended by a special meeting of this Committee held in London on June, 22, 1928. The memorandum has been circulated to all members of the Council.

The Committee has had under consideration the position of mental nurses holding the certificate of the Association in regard to the Nursing Homes Registration Bill. The Chairman, Dr. Nathan Raw, and the Honorary Secretary took steps to effect the recognition of nurses registered by the Association as "qualified nurses" in the meaning of the Bill, but without success. The Committee has also considered the report of the Departmental Committee on the Superannuation of Local Government Officers. Arrangements are being made to meet the officials of the National Asylum Workers' Union in order to discuss the findings set out in the Report.

The Committee has to report that difficulty has been experienced in the past in getting information concerning pending legislation which concerns the interests of the Association in time for the Committee to take effective action.

It is the opinion of the Parliamentary Committee that it should be assisted by the appointment of a paid Parliamentary agent, in order to obtain earlier notice of Parliamentary legislation than has hitherto been the case.

NATHAN RAW, *Chairman.*
G. W. B. JAMES, *Secretary.*

Dr. H. YELLOWLEES seconded. [**Agreed.**

The PRESIDENT said he would like to thank the Parliamentary Committee for its memorandum on the Report of the Royal Commission on Lunacy and Mental Disorder. It had entailed an enormous amount of work, and should be gratefully acknowledged by the Association. (Applause.)

3. (*h*) REPORT OF THE LIBRARY COMMITTEE.

Dr. COLIN MCDOWALL submitted this Report, and moved that it be adopted.

Your Committee has met on three occasions.

During the year very little use has been made of the Reference Library, but the periodicals have been circulated regularly. Members are reminded that these are sent free of charge, and that the question of additional journals which may be asked for would be considered by the Committee. *The Psychological Review* has been added to the list of circulating journals.

The Hon. Librarian has gone through the books of the Library and the point has arisen of the ideal to be aimed at in the constitution of the Library. The Committee are of the opinion that it should be a Library of reference on psychiatry, neurology and closely allied subjects. The Committee would welcome an expression of opinion from members on this point, as there are a number of books in the Library which are of no interest to persons in this specialty and others of little interest, even from a medical point of view. The Committee think it desirable that in future, books reviewed in the Journal should automatically become the property of the Library by a financial arrangement with the reviewers.

There is only accommodation for about two or three dozen more books in their present situation. It has therefore not been found a practicable proposition to add to the Library. Further and better accommodation is needed if the Library is to be a living and useful thing. Members have applied for books, after reading the reviews in the Journal, and are disappointed to find that we have not the books required. Nothing more can be done until more and better accommodation is provided in the present situation, or elsewhere.

Dr. CEDRIC BOWER seconded. [**Agreed.**

3. (*i*) REPORT OF THE RESEARCH AND CLINICAL COMMITTEE.

Dr. B. H. SHAW read this Report, and moved its adoption.

The Research and Clinical Committee beg to submit the following report for the year ending July, 1928:

Two meeting have been held—the first and inaugural one on November 16, 1927, and the second on May 15, 1928.

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Sub-Committees were set up to deal with the following matters:

(i) Glossary of Psychological and Psychiatrical Terms.
(ii) General Paralysis and other Syphilitic Brain Diseases.
(iii) Epidemic Encephalitis.
(iv) Psychotherapy and Psychopathology.
(v) Actinotherapy.
(vi) Infectious Diseases in Mental Hospitals.
(vii) Pathology, Bacteriology and Biochemistry.
(viii) Clinical Psychiatry.
(ix) Mental Deficiency.
(x) Study Tours.

The administrative machinery in connection with these Sub-Committees has been completed and work is steadily in progress.

As regards the Glossary Sub-Committee, it is proposed to transfer its reference, suitably amended, to the Clinical Psychiatry Sub-Committee.

The General Paralysis Sub-Committee has met once, and three possible lines of inquiry were discussed: (*a*) The relative advantages of mosquito-induced malaria and the method of blood inoculation; (*b*) the importance of inquiring into mortality causes; (*c*) the procurement of P.M. material for research purposes. A committee was formed with a view to developing a national register and getting out forms for use.

The Epidemic Encephalitis Sub-Committee has met once, and has decided to try and form definite centres to which all material for examination could be sent. It has also considered the question of the care of chronic cases of epidemic encephalitis, with special reference to poor people not able to be dealt with at home.

The Psychotherapy and Psychopathology Sub-Committee has met once, and is endeavouring to get into touch with persons interested in psychopathology or engaged in research work on the subject. A study group is in process of being formed. The Secretary, Dr. Nicole, has drawn up a most comprehensive list of over 2,000 modern works in English on psychology—this list is now available for circulation and arrangements have been made to keep it up-to-date.

The Actinotherapy Sub-Committee has met once. A questionnaire has been sent to all Mental hospitals and a scheme of investigation decided upon.

A meeting of the Infectious Diseases Sub-Committee has been held, and Dr. B. H. Shaw undertook to act as Secretary for the time being, *vice* Dr. R. W. Branthwaite resigned.

The Pathological Sub-Committee has met twice. Five main lines of research have been agreed on:

(1) The Histology of the Basal Ganglia.
(2) Pellagra.
(3) The Accessory Sinuses.
(4) Liver Function.
(5) The Bacteriology of the Intestine.

Inquiries have been sent out as to facilities available and men qualified to undertake the work. Five members have arranged, in conjunction with the Hon. Secretary, to put before the applicants these lines of research and afford facilities for them.

The Clinical Psychiatry Sub-Committee has met once, and is engaged in the preparation of (*a*) a general case-sheet containing a minimum amount of clinical information; (*b*) a special case-sheet containing the various systems dealt with; (*c*) a separate form containing all the administrative and civil particulars.

The Mental Deficiency Sub-Committee has met once, and decided to commence an investigation into the incidence of congenital syphilis in mental deficiency. Dr. Gordon undertook to examine blood specimens sent to him.

The Study Tours Sub-Committee has met once. The regulations of the examining bodies who confer a diploma in psychological medicine have been obtained, and a table, with notes, prepared with a view to its publication by the Association. Information is being obtained with a view to arrangements being made for tours of institutions and clinics for mental diseases in France, Germany and Holland, and also for continental members to tour in the British Isles. A Study Tour of the Dutch Mental Hospitals and Clinics will take place this Autumn.

With the view to the production of a comprehensive index and epitome of current

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psychiatrical literature for general use, a meeting was arranged between Dr. Lord, Dr. Golla and the Editors of various medical journals publishing psychiatric epitomes. The meeting took place on June 14, 1928, and, although no action was recommended at present, there was a frank interchange of views and the discussion revealed information of much mutual interest and value. Another meeting is not improbable.

Divisional Clinical Meetings.

The administrative machinery for England has been completed. The various Divisions have been subdivided into areas, and members advised as to the procedure for calling and holding meetings. Reports of such meetings are sent to the Research and Clinical Committee for record purposes, and extracts of items of interest are sent on to the appropriate sub-committee for consideration. An account of each meeting, together with papers read, will appear in the Journal from time to time.

The following meetings have been held:

Where held.	Date.	Number present.	
		Members.	Non-members.
City Mental Hospital, Nottingham	27/1/28	11	—
Prestwich Mental Hospital, Manchester	1/2/28	16	10
Sunderland Mental Hospital	28/3/28	11	—
Rubery Hill Mental Hospital, Birmingham	15/3/28	12	—
Upton Mental Hospital, Chester	29/3/28	15	—
City Mental Hospital, Humberstone, Leicester	27/3/28	10	25
Newcastle Mental Hospital	18/4/28	13	—
Dorchester Mental Hospital	30/4/28	5	—
Rainhill Mental Hospital, Lancs	2/5/28	12	12
Burntwood Mental Hospital, Lichfield	6/6/28	10	—
South Yorks Mental Hospital, Wadsley	20/6/28	10	13
Cheddleton Mental Hospital, Leek	21/6/28	7	1
Middleton Hall, Durham	27/6/28	5	—

Finance.

The Committee has not yet had occasion to expend any of the grant of £50 allowed by the last Annual General Meeting. It is desirable that this grant should be renewed for the coming year.

The Committee reports the receipt of its first donation from an outside source, *i.e.*, £5 from W. McF. Orr, Esq., Monkstown, co. Dublin.

J. R. LORD, *Chairman.*
B. H. SHAW, *Hon. Secretary.*

Dr. J. R. LORD, in seconding the adoption, said he would like to draw special attention to the activities of the Study Tours Sub-Committee. It was hoped that there would be a good response to the circular which would shortly be sent out announcing the first study-tour, namely, to Dutch mental hospitals and clinics. Prof. Winkler and Dr. Stuurman, Secretary of the Dutch Association for Psychiatry and Neurology, had taken a great interest in this, and the Dutch alienists were delighted to learn that such a visit was likely to take place very soon. He hoped that many members would be able to participate. The cost for the week would be remarkably cheap—about £14. He hoped, too, that medical superintendents would encourage medical officers to join the party and, if necessary, grant special leave for this purpose. [**Agreed.**

4. (*a*) REPORT OF THE REVISION OF THE JOURNAL COMMITTEE.

Dr. J. R. LORD read this Report, and moved its adoption.

The Committee has held meetings on the occasions of the Quarterly Meetings of the Council, chiefly to consider matters relating to the publication of the first volume of the Monograph Series, for which the Annual Meeting (1927) granted an advance of £100. The subject of the Monograph is "Sinusitis in Mental Disorders," and the authors are W. Stirk Adams, M.B., F.R.C.S., Visiting Throat and Ear Surgeon, Birmingham City Mental Hospitals; T. C. Graves, B.Sc., M.D., F.R.C.S., Chief Medical Officer, Birmingham Mental Hospitals Committee; F. A. Pickworth,

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B.Sc., M.B., A.C.I., Ph.C., Pathologist, Joint Board of Research for Mental Diseases, City and University of Birmingham; P. Watson-Williams, M.D., Consulting Surgeon for Diseases of the Ear, Nose and Throat, Bristol Royal Infirmary; E. Watson-Williams, *M.C.*, Ch.M., F.R.C.S.E., Hon. Surgeon-in-Charge of the Ear, Nose and Throat Department of Bristol Royal Infirmary; and E. Musgrave Woodman, M.S., F.R.C.S., Hon. Aural Surgeon, General Hospital, Birmingham.

The size, style, paper, type and general arrangements have been decided upon, and printing has commenced. There are many illustrations. Only a small sum has been expended on the work, so a detailed financial statement does not appear to be necessary at present.

The question of reviving the "Index Medico-Psychologicus"—a feature of the Journal from April, 1880, to July, 1899—has been considered. The urgent need for such an index in furtherance of psychiatric education and research has, of late, been much pressed, especially by young psychiatrists. The latter has also been seriously taken up by the Research and Clinical Committee.

The Editors of the Journal have met this necessity to some extent by enlarging the scope of the "Epitome of Current Literature," but to supply anything like a complete index of this nature is a difficult undertaking as regards both the labour and the cost involved, and is financially impossible unless the former is largely of a voluntary character.

The Editors will continue to do all they can in this direction, and when a favourable opportunity occurs will supplement the "Epitome" by an index of the kind required.

The Committee understand that the Editors have decided upon a new style of heading for original papers and more liberal paging of this section of the Journal. We concur with both these changes, the extra cost of which will be trivial.

Dr. McRae seconded. [**Agreed.**

4. (*b*) THE REPORT OF THE MENTAL NURSING ADVISORY COMMITTEE TO THE GENERAL NURSING COUNCILS.

Dr. W. M. Buchanan read this Report, and moved its adoption.

During the year the Committee have been engaged in the preliminary work involved in carrying out the November resolution (1927), a task imposed on it by the Council at the Special Meeting held in Bristol, February 15, 1928.

A questionnaire was issued to recognized training schools with the object of acquiring information on a number of points on which it was essential that accurate information should be available in negotiating with the General Nursing Councils for recognition of the Association's Nursing Certificate as a registrable qualification. The results were summarized and a preliminary report was drawn up and circulated.

Considerable correspondence passed between the English, Scottish, and Irish sections of the Committee, and the two former sections met at London and Edinburgh, respectively, prior to a meeting of the whole Committee at Liverpool on April, 13, 1928, when a report was agreed to and the following three resolutions were passed:

1. That the President and Council of the Royal Medico-Psychological Association be recommended to present an application to the General Nursing Councils requesting that the Mental Nursing Certificate of the Royal Medico-Psychological Association be recognized as qualifiying for admission to the Mental Nurses' Section of the Register of the General Nursing Councils, together with a statement in support of the application, and further that the General Nursing Councils should be asked to receive delegations appointed by the Council to each of the General Nursing Councils separately in reference to the application.

2. That copies of the application and the statement be forwarded to the Minister of Health for England and Wales, to the Secretary of State for Scotland, the Boards of Control, and corresponding authorities for Northern Ireland and the Irish Free State, together with copies of the Resolutions of the Mental Hospitals' Association, and of the National Asylum Workers' Union, supporting the action of the Association.

3. That the assistance of these Government Departments be solicited.

The Report, after some amendments, and the resolutions were approved by the Council at the Quarterly Meeting in London, May 16, 1928, and the various sections

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of the Committee were appointed delegates of the Association, and were instructed in due course to approach the several General Nursing Councils on the suggested lines.

W. J. T. KIMBER
(*for the General Secretary.*)

Dr. F. R. P. TAYLOR seconded.

Dr. H. YELLOWLEES asked whether members might be informed of the personnel of the Committee which had been deputed to meet the General Nursing Councils.

Dr. LORD replied that the Council thought that in order to bring the greatest weight to bear on the various Councils, the Committee should be as representative of all interests as possible. The Committee appointed would approach the General Nursing Councils, one after another, so that the same policy would be presented on each occasion, without any variation. The first to be approached would be the Scottish. It was only courteous that this should be so, as that Nursing Council had invited the Association to meet them, while the others had not yet issued such an invitation. Prof. G. M. Robertson had been chosen and appointed Chairman. No committee on mental nursing would be complete without him. The others were Dr. Hamilton Marr, Dr. C. H. Bond, Dr. Nathan Raw, Dr. W. R. Dawson (if he could not act, Dr. M. J. Nolan), Dr. R. R. Leeper, Dr. J. Greig Soutar, Dr. H. Yellowlees, Dr. W. M. Buchanan, (Secretary), Dr. D. F. Rambaut, Dr. Douglas McRae and Dr. G. W. B. James (these two representing the examiners), and two of the Association's nurse-examiners. Sir Frederick Willis had signified his readiness to act, and his name had been included. Dr. R. F. P. Taylor, Dr. Donald Ross (Chairman and Vice-Chairman of the Educational Committee), Dr. J. Keay, and Dr. T. C. Mackenzie all represented the Educational Committee. The speaker (Dr. LORD) had also been asked to join it, and he would attend when his health permitted. The Committee was unfortunately on the large side, but on no occasion was it likely that all could be present. The names, however, did ensure a strong representative Committee whenever it met, and one well versed in the matter.

Dr. YELLOWLEES said that, in his opinion, such a number would tend to make for confusion. It was not to the point to say that it would ensure that a sufficient number of members would attend on a particular occasion. He hoped the Council would be persuaded that they had appointed an unwieldy body. He suggested that this general meeting should proceed to prune the Committee.

The PRESIDENT said that Dr. Yellowlees was hardly in order in discussing this matter further. He had been a consenting party to the appointment of the Committee.

Dr. YELLOWLEES submitted that the Council's Report made no reference to numbers, and if he had not happened to ask the question, the personnel appointed would not have transpired that day.

Dr. LORD said that in his summary of the Report of the Council he reported that this Committee had been appointed, but, for the sake of brevity, he did not give the names. With regard to the size of the Committee, his point was this: the Committee would have to act possibly during the next eighteen months or two years. All were representative men, and though no doubt they would all try to be present when the Committee met, there would be occasions when some could not be present. He believed the Committee would be quite effective; as constituted it would be a powerful body to speak on behalf of the Council.

Dr. J. GREIG SOUTAR, speaking on a point of order, said, that though this Committee had been appointed by the Council, after all the Annual General Meeting was predominant. He asked whether the appointment of the Committee should not still be open for discussion.

The PRESIDENT said his point was that it was mentioned in the Report of the Council, which Report was moved, seconded and adopted. That was the proper occasion on which to raise a discussion. But he would be sorry if it were thought that the Council wished to avoid discussion of any of its actions.

Dr. YELLOWLEES said if that was the President's ruling it was the end of the matter.

The PRESIDENT, continuing, said there was no reason why, under the circumstances revealed by Dr. Lord, the composition of the proposed Committee should not be discussed.

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Dr. SOUTAR said one must recognize that the Annual General Meeting of the Association was the predominant body, and that what was done by the Council had to come before it for approval. The discussion now was on a new fact, with which the meeting had been acquainted for the first time. There was much to be said for Dr. Yellowlees' remarks as to the size of the proposed deputation. In his opinion what was required was that a few people, well versed, should deal with this matter, rather than have it handled by a large number of people who were only more or less acquainted with the policy the Association desired should be put forward. Definiteness was of the first importance; there should be no vague idea as to what is that policy.

Dr. G. W. B. JAMES said that, as a practical contribution to this discussion, he would like to withdraw his name from those appointed to serve on this Committee. The examiners on it would be adequately represented by Dr. McRae.

Dr. YELLOWLEES said he also would like to withdraw his name, and, to test the feeling of the meeting, he proposed that the deputation consist of eight members.

Dr. DOVE CORMAC seconded.

Dr. LORD said, referring to Dr. Soutar's remarks, that the policy was absolutely clear-cut; the Committee knew exactly what to ask for, its terms of reference were quite definite. The Committee would have authority to speak on the November 1927 resolution and act in the name of the Council as far as the "proviso"; it was only empowered to discuss the "proviso" with the General Nursing Council, and was not authorized to do more without further reference to the parent body. He would remind them that the November, 1927, resolution was divided into two parts. The first consisted of a claim for the recognition of the Certificate, the second dealt with the terms under which that recognition would be carried out in practice. It was on the latter matter that definite instructions could not be given, because it was not known what the General Nursing Council might require, and until that was known, nothing could be put to the Association for decision. If the Committee adhered carefully to its terms of reference, and there was no reason to suppose it would not, it could not possibly go astray. All the Association's interests were carefully balanced on the Committee. It was thought to be a courtesy to have examiners present in a consultative capacity, because some member of the General Nursing Council might wish to put a question direct to an examiner. The Educational Committee and all the Divisions were represented. Others had taken a deep interest in the subject for years and some were members of the Mental Nursing Advisory Committee, who had already discussed the subject at great length. Dr. Nathan Raw was an extremely important inclusion, as he was one of those who saw the whole battle in Parliament, and engaged in the discussions that took place when the Nurses' Registration Bills were passed. He had read one of Dr. Nathan Raw's speeches in Parliament, in which he strongly advocated that mental murses should be admitted to the proposed Register, and had moved a resolution to that effect. Hours of thought had been given to the personnel of the Committee and he would be sorry if it were seriously altered.

Dr. YELLOWLEES said it had been suggested to him, as a compromise, that this committee might possibly elect a deputation of six of its number to do the actual interviewing. It occurred to him that if the policy was so clear-cut and every body knew precisely what was to be, then the need for a numerous committee was less than it had appeared to the Council. He made the suggestion, however, that the Committee might select six of its number to meet the General Nursing Councils. He thought that the Nursing Councils would not consent to talk to a small army of people, and that the Committee as proposed, was too unwieldy to get anything done.

Dr. NATHAN RAW said that Dr. Lord had referred to his name in connection with this matter, and it was very important that any Committee which interviewed these Nursing Councils should have a very definite, clear-cut policy to go on, because of all the acrimonious speeches he had heard in Parliament, the worst were those in connection with Registration of Nurses Bill. There was more quarrelling in Parliament over this Bill than over any he remembered. It had finally to be made a Government measure. He agreed with Dr. Yellowlees that a small deputation—not necessarily including the speaker—should have definite instructions from the Council of the Association. It would not do for them to go as a roving commission.

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Dr. LORD said he thought he had made it clear that the Committee had been given definite instructions as far as it was possible.

Dr. SOUTAR moved that it be an instruction to the Council to reduce the size of the proposed committee, and that the section of the Council's report dealing with this matter be referred for this purpose.

Dr. LORD said he would agree to that.

Dr. YELLOWLEES said he would withdraw his motion in favour of Dr. Soutar's.

The PRESIDENT said that if the meeting agreed to this, the matter need not be further discussed. The personnel of the Committee would be considered as remitted to the Council. [**Agreed.**

Dr. BUCHANAN said if a quorum of the Council could be obtained at the end of the present meeting, the matter could be discussed at once.

[At the conclusion of the morning session, Dr. Marr presided over an informal meeting of the Council at which this matter was again discussed. Dr. Douglas McRae and Dr. J. Greig Soutar withdrew their names from the Committee. It was finally decided, on the motion of Dr. Elizabeth Casson, seconded by Dr. Lord, to ballot for eight out of the remaining personnel of the Committee. Dr. Lord would not allow his name to remain on a reduced Committee, because of the uncertainty of his attendance at its meetings. As a result of the ballot, it was decided that only the following eight members of the Committee should be summoned, namely Prof. G. M. Robertson (Chairman), Dr. Nathan Raw, Dr. Rambaut, Dr. R. R. Leeper, Dr. W. M. Buchanan (Secretary), Sir Frederick Willis, Dr. F. R. P. Taylor and Dr. M. J. Nolan, and the President instructed the Secretary of the Committee accordingly.*]

5. REVISION OF THE BYE-LAWS.

Dr. LORD submitted the following report:

REPORT OF THE COMMITTEE APPOINTED AT A SPECIAL MEETING OF THE ASSOCIATION HELD ON TUESDAY, JULY 10, AT THE WEST RIDING MENTAL HOSPITAL, WAKEFIELD, FOR THE PURPOSE OF REVISING THE BYE-LAWS IN CERTAIN MATTERS.

The immediate object of this revision is to secure such alterations and additions as are necessary to enable the following Resolutions to take effect:

(1) *Appointment of Honorary Librarian.*—(*a*) To be elected annually; (*b*) to be an executive officer under the direction of the Council, subject to Bye-law 78; (*c*) to report to the Council and Library Committee; (*d*) to take charge and be responsible for the good order of the Library and custody of its contents; (*e*) to have direction of the Assistant Librarian; (*f*) to attend at the Library frequently; (*g*) to reside in or near London; (*h*) such Office not to interfere with the legislative functions of the Library Committee. (Council meeting, May 19, 1927—London.)

This resolution was confirmed at a quarterly meeting of the same date, which expressed the opinion that whenever possible the Librarian should be the Chairman of the Library Committee.

The following amendments and additions to the bye-laws are suggested:

Bye-law 31: After "Journal" add "and Librarian."

[This makes him an officer of the Association, nominated and elected annually, and a member of the Council, etc.]

Bye-law 61A: The Librarian (subject to the Library Committee) shall have charge and be responsible for the good order of the Library and the custody of its contents.

Bye-law 61B: He shall attend at the Library frequently and reside in or near London.

Bye-law 61C: He shall have the direction of the Assistant Librarian.

Bye-law 78: Delete and substitute "The Library Committee shall legislate, subject to report to the Council, for the good order and utility of the Library, the custody, replenishment and cataloguing of its contents, the loan and return of books, and the purchase and circulation of appropriate journals."

(2) *Appointment of five Vice-Presidents*, each of whom shall be a Chairman of

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* This action will have to be regularized at the next Council Meeting summoned in accordance with the Bye-laws.—[GENERAL SECRETARY.]

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a Division and one of its representative members on the Council; such appointments to be made annually, the retiring officer to be eligible for re-appointment for two subsequent years, after which he ceases to be eligible. Certain duties are allotted to these new officers. (Resolution of the Council, February 16, 1928—Bristol.)

The following amendments and additions to the Bye-laws are suggested:

Bye-law 25: After "own," line 2, add "Chairman and." After "Council," line 5, add "The Chairman of a Division (a Vice-President *virtute officii*) shall be one of its Representative Members on the Council. He shall be appointed annually and be eligible for reappointment for two years, after which he shall not again be eligible. His appointment shall be made by show of hands or ballot, and shall follow immediately upon the election of Representative Members of the Council."

Bye-law 31: After "President," line 2, add "Vice-Presidents."

Bye-law 32: After "Divisional," line 1, add "Chairman and."

Bye-law 33: After "Association," line 5, delete "of its Division."

Bye-law 35A: "The Chairman of a Division (Vice-President *virtute officii*) shall, when present, preside at ordinary meetings of his Division and at meetings of the Divisional Committee of Management. He shall be under no obligation to preside at meetings of Special Committees, but shall be an *ex-officio* member of all Committees appointed by his Division."

Bye-law 35B: "He shall, as far as possible, become personally acquainted with all new members of his Division and shall ascertain their particular interests and needs, and shall put them in communication with the appropriate branch or branches of the Association's work."

Bye-law 36: After "of," line 6, add "Division or."

Bye-law 49: After "the," sub-paragraph (*e*), line 1, add "Chairman and."

Bye-law 49A: "He shall submit all agendas of ordinary Divisional meetings and meetings of the Divisional Committee of Management to the chairman of his Division for consideration and approval before issue."

(3) *Resolution of the Education Committee, May 15, 1928—London.*

Bye-law 71: After "annually," line 7, add "but shall be eligible for election as Junior Examiner."

Opportunity might be taken to regularize action under the following resolution

(4) *Resolution of the Council, July 18, 1922—Edinburgh.*

Bye-law 38: After "Accounts," line 4, add "(including separate accounts of the Maudsley Bequest and Gaskell Fund)."

In addition the Committee is of the opinion that the following amendments, pending a more general revision, might be approved now as being both desirable and uncontroversial.

Bye-law 81: A serious clerical error was made in the impress of 1915 and has been copied ever since. It is not found in the original bye-law dated 1903, of which 81 is a repeat.

To "purpose" line 9, add "s."

Privileges of Honorary Members.—The Association, in doing honour to an ordinary member by electing him an honorary member, does not, the Committee feels, contemplate losing his services either on the Council or on the Committees. Bye-law 20 states that he "shall enjoy all the privileges of ordinary members except that of voting."

This restriction dates from the 1894 revision of the rules. Prior to this there was no such restriction. The discussion on this point took place at the adjourned annual meetings held at Buxton on November 16, 1893, and at Oxford on February 15, 1894. At the former meeting Dr. Hayes Newington proposed this restriction, saying "that it was only right that the honorary members should be restricted from voting for the Council." The President then remarked that the criticism could be met by adding "except the power of voting." This was approved. At the latter meeting "the power" was omitted and "that" inserted.

The Committee's view is that if the Association desires to retain the services of eminent men who have for years given it loyal service, the Association should be whole-hearted about it and continue to give them its entire confidence. Otherwise ordinary members will decline the honour, and nominations for the honorary membership will become restricted to distinguished non-members and distinguished but inactive members.

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The amendment suggested is:

Bye-law 20: Delete in line 3 "except that of voting."

Divisional Business Committees or Committees of Management and other Committees.—At present there is no provision in the Bye-laws for a Division's appointing a committee of any sort. No doubt this is designedly so, for confusion could only arise from a Division appointing, say, a parliamentary committee. However, every Division has found it necessary to appoint a Business Committee or Committee of Management, and such should be authorized by the Bye-laws. As to other Committees, the Committee suggests that each Division should be given the power to appoint Standing Committees, but only with the sanction of, or at the request of the Council.

To give effect to these the Committee suggests—

Bye-law 25: After "business," in line 3, add "Each Division shall appoint annually a Standing Committee of Management, the retiring members to be eligible for immediate re-election. Each Division shall have the power to appoint other Standing Committees, but only with the sanction of, or at the request of the Council. Each Division may appoint Special Committees at its pleasure."

The proposed new Bye-law 35A makes the Chairman of a Division an *ex-officio* member of all Divisional Committees. It is desirable that a similar provision should apply to the Divisional Secretaries.

Bye-law 48: At the end add "They shall be *ex-officio* members of all Committees of their respective Divisions."

Assistant Editors.—There is no mention in the Bye-laws of the appointment of Assistant Editors. It is submitted that the responsibility of the Editors for the conduct of the Journal should not be impaired by the Council or Association giving directions on this matter.

This was the view taken by the Association when the matter was raised at the Annual Meeting of August 4, 1868.

The following amendment seems appropriate:

Bye-law 50: At the end add, "who may appoint one or more Assistant Editors as found necessary."

Nominations Committee.—This Committee does not, according to Bye-law 80, report to the Annual Meeting, and the insertion of its report on the agenda of an annual meeting pursuant Bye-law 75 is not necessary.

To put this right the following amendment is submitted:

Bye-law 75: At the beginning of line 4 add "With the exception of the Nominations Committee."

Forms C and D.—Appropriate additions will have to be made in the event of the creation of new offices.

(*Signed*) J. R. LORD,
Hon. Secretary of the Committee.

RESOLVED *on the motion of Dr. J. R. Lord, seconded by Dr. W. M. Buchanan, that the Report of the Committee appointed at a Special Meeting of the Association held on Tuesday, July 10, at the West Riding Mental Hospital, Wakefield, for the purpose of revising the Bye-laws on certain matters be adopted and that steps be taken to secure the allowance by the Lords of the Privy Council of the additions and amendments to the Bye-laws recommended in the Report.* **[Agreed.**

6. MOTIONS INVOLVING EXPENDITURE OF FUNDS (BYE-LAW 93).

(*a*) Expenses of the Mental Nursing Advisory Committee to the Education Committee 1929.

Dr. J. R. LORD said that the work of this body might involve the Association in a sum which it would be necessary for the annual meeting to sanction. The amount could not be definitely stated. It would largely depend upon where the meeting was held. He moved that claims for reasonable travelling and other expenses incurred by attendances at this meeting be paid by the Association.

Dr. B. H. SHAW seconded. **[Agreed.**

(*b*) Revision of the Association's Bronze Medal.

Dr. LORD said that he was not in a position to give a full statement of expenditure under this head, but he could say that the total cost would not exceed £85.

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Once the dies were completed, the medals could be produced at comparatively small cost. He proposed that the expenditure of £85 be sanctioned for the revision of the Association's Bronze Medal.

Dr. NATHAN RAW seconded. [Agreed.

(*c*) Revision of Honorary and Corresponding Members' Diplomas.

Dr. LORD said the plate for the honorary members' diploma had cost £37 4*s*. The Council had sanctioned the printing of a hundred copies, at a cost of £7 1*s*. 6*d*. This number would meet all requirements for many years. There would be a small cost applying the seals to these diplomas. The diploma for corresponding members would cost much less, because the heading would be the same as that for the honorary members' diploma. He moved that £50 be allowed for the revision of the honorary members' diploma, that for the corresponding members diploma to be reported in due course.

[Agreed.

Dr. SOUTAR asked why these alterations had taken place; he asked because he wanted the general body of members to know. The Council, of course, knew that the alterations were necessary, because the Association had obtained a Royal Charter and changed its name and seal.

Dr. LORD reminded Dr. Soutar that these matters were reported at the May General Meeting (London) 1928. The reason for the revision of the honorary and corresponding members' diplomas was, that it was discovered that the honorary members' diplomas had not been issued for a number of years. In other words, the bye-laws on this matter had not been carried out. Search for plates or unissued diplomas proved a failure, so a start *de novo* had to be made. The Bronze Medal was out of date. It bore a wrong description of the Association, and a badge which had been superseded by the coat-of-arms. These expenses were unavoidable.

Dr. SOUTAR said the explanation was satisfactory, but the Annual General Meeting should be informed on these matters.

Dr. LORD rejoined that these matters were all referred to in the eight-paged Report of the Council. In the whole history of the Association the general meetings had never been kept so informed as during the last three years.

(*d*) Grant for the Research and Clinical Committee.

Dr. LORD moved that the grant of £50 should be renewed. None of it was expended last year. [Agreed.

(*e*) Cost of re-indexing the Library and issuing a new catalogue.

Dr. LORD said that this work was first authorized by the May General Meeting, 1927, and confirmed at the last Annual Meeting. The cost, if over £50, had to be reported on completion to the next Annual Meeting. The work had been completed satisfactorily under the supervision of the Hon. Librarian. He moved that the expenditure incurred £35 be approved. [Agreed.

(*f*) Cost of Gold Medal and Certificature of Proficiency in Mental Nursing (Honorary) to be presented to H.R.H. Princess Mary (Viscountess Lascelles).

Dr. LORD said the President would, in a short time, be making an announcement relative to the decision of the May General Meeting on this matter. The expenditure would not be made public, but it needed the approval of the meeting (details given). [Agreed.

(*g*) Expenses of the Council's Committee on the State Registration of Mental Nurses.

Dr. LORD moved that claims for reasonable travelling and other expenses incurred by attendance at Conferences with the General Nursing Councils be paid by the Association. The Treasurer had been communicated with on the matter, and gave his opinion that it was in order. He, the speaker, was not in a position to say what the expenditure would be.

Dr. SOUTAR said this was another reason for the reduction of the number forming the Committee. [Agreed.

(*h*) The proposed Parliamentary Agent's remuneration and the initial financing of the sale of the mental nurses' new brooch.

Dr. LORD said that these would be disbursements in new directions. Formal approval was necessary to enable the Council to go forward with these proposals.

[Agreed.

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7. DATES OF THE QUARTERLY GENERAL MEETINGS OF THE ASSOCIATION AND OF THE QUARTERLY MEETINGS OF THE COUNCIL.

The following dates were submitted from the Chair: Friday, November 23, 1928; Thursday, February 14, 1929; Wednesday, May 22, 1929.

Dr. J. B. TIGHE asked whether it could now be stated where the meetings would be held.

The PRESIDENT said the reply was in the negative. It was a matter for the President-elect.

8. ELECTION OF HONORARY, CORRESPONDING, AND ORDINARY MEMBERS.

Dr. J. R. LORD said that according to the Bye-laws, the election of honorary and corresponding members shall be by ballot as in the case of ordinary members. It had fallen to him to speak of the candidates proposed for these honours, a duty which would give him much pleasure, though he regretted he had not been able to give as much time to the preparation of his notes as he would have liked. He would be as brief as possible, but the full details would appear in the report of the proceedings in the *Journal of Mental Science*.

Honorary Members.

Dr. LORD said:

The Association at its first Annual General Meeting held on November 4, 1841, at Nottingham, passed unanimously the following resolutions: (No. 10) "*That the Association, as it may think proper, shall elect as honorary members, gentlemen, whether medical or otherwise, who shall have distinguished themselves by the particular interest they have exhibited in the subject of insanity*," and (No. 11) "*that Mr. Samuel Tuke (of York), Mr. Farr (of London), Mr. Bowden (of Hanwell), and Dr. Guislain (of Ghent) be now elected honorary members.*"

Such was the beginning of our roll of honorary members, and the Association in general meeting assembled has continued to add the names of persons who have rendered in any part of the world such eminent services to psychological medicine as to be deemed worthy of this, the highest honour that it is in the power of the Association to bestow.

As we read that roll from the beginning, the eye is soon caught by a name which I suggest it is appropriate to recall to-day, for reasons I shall presently state. The authority for the inclusion of that name is to be found in the minutes of the Seventh Annual General Meeting held on July 21, 1852, one reads: "*Resolved on the motion of Dr. Thurnam, seconded by Dr. Conolly, that Samuel Gaskell, Esqre., be elected an honorary member of the Association.*"

But Gaskell (one of the five worthy men who founded the Association) was not the first Commissioner to be so honoured (he became a Commissioner in Lunacy in 1849), for we find that the names of Drs. Nugent and White, Inspectors of Lunatics in Ireland, had been added at the Sixth Annual General Meeting held in 1851. Nor was he the last, for as we continue to scan these entries, we meet the names of many Commissioners and Inspectors down to the present day.

It might therefore be concluded that such elections have become customary, but however much this may be true, the names themselves are proof of the fact that these gentlemen, apart from the high position they occupied, had earned the respect, admiration and, in the case of some, the particular affection of members.

[*Reads from Roll.*]

ENGLAND.		SCOTLAND.		IRELAND.	
Year.	*Name.*	*Year.*	*Name.*	*Year.*	*Name.*
1852	Samuel Gaskell.	1858	W. A. F. Browne.	1851	John Nugent.
1856	John Wilkes.	1862	Sir James Coxe.	1851	Francis White.
1862	Robert Nairne.	1871	Arthur Mitchell.	1862	George W. Hatchell.
1867	John D. Cleaton.	1872	John Fraser.	1872	E. M. Courtenay.
1878	W. Rhys Williams.	1880	John Sibbald.	1890	Sir G. P. O'Farrell.
1889	Frederick Needham.	1910	John Macpherson.	1912	T. J. Considine.
1896	Sir Clifford Allbutt.	1923	Sir Arthur Rose.	1924	W. R. Dawson.
1902	Sidney Copeland.				

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England—*cont.*	
Year.	*Name.*
1910	Arthur Hill Trevor.
1918	Sir Edward Marriott Cooke.
1923	Sir Frederick J. Willis.

New South Wales.	
Year.	*Name.*
1871	F. N. Manning.

In so far as these elections have become customary, it can be truly said of them that they are symbolical of those ties of mutual respect and co-operation which have always existed, and never more so than at present, between our Association and the members of the central lunacy authorities.

I am inclined to think that the committee which revised the Rules of the Association in 1855, only three years after Gaskell became an honorary member, had such elections in mind when it recommended that honorary members, medical and otherwise, were to be "*distinguished by the interest they take in the erection and management of asylums and the proper treatment of the insane.*" This was adopted and remained operative until July 13, 1865, when all reference to asylums was omitted.

Dr. Charles Hubert Bond.

I said just now that it was appropriate to recall to-day the name of Samuel Gaskell. Now my reason for doing so is that on this occasion when it is again proposed to inscribe the name of a Commissioner on that Roll, I feel that the name I submit is that of one who can be truly accounted a successor to Samuel Gaskell, of whom Lord Shaftesbury said, "A more intelligent man never existed," and who vied with Prichard for the first place in the esteem of that keen judge of men, Hack Tuke. I refer to Dr. Charles Hubert Bond, *C.B.E.*, F.R.C.P. (Loud applause.) Neither of these gentlemen owed his advancement to the position of one of H.M. Commissioners, to any spectacular achievement, but to his solid worth and proved capacity in asylum administration and practical psychiatry, and to the enlightened and progressive spirit which marked his every-day labours in these fields.

Both, however, were earnest propagandists and pioneers, the one (Gaskell) of the non-restraint and humane treatment of patients, the other (Bond) of the hospitalization of asylums. It is also interesting to note that they were of the same age when appointed Commissioners. It can with certainty be said of Dr. Bond that he would have qualified for his election as an honorary member in accordance with both the old and the revised rules had he lived in either of these times, but living as he does to-day he must be judged by the standard decreed in our modern Bye-laws, which stipulate (a) *eminence in psychology or in those branches of science connected with the service of insanity*, or (b) *signal service to the cause of humanity in relation to the treatment of the insane* or (c) *to the Association* as the qualifications of honorary members. It is a light task for me to show that Dr. Bond amply satisfies this modern standard as he does the older standards.

As proof of his eminence in psychology and psychiatry I need only remind you that he is Emeritus Lecturer in Psychiatry at the Middlesex Hospital School of Medicine, Lecturer at the Maudsley Hospital, Examiner in Neurology and Psychiatry, Conjoint Board of England (1920–24), University of London (since 1924) and Leeds University (since 1925), and Consultant in Neurology and Mental Diseases to the Royal Navy (since 1925).

In his early days he did research work of proved value, especially on glycosuria in mental cases. He has also made notable contributions to psychiatrical literature on such diverse subjects as epileptic insanity, lunacy statistics, hospital treatment, asylum construction, and the "need for schools of psychiatry."

On the administrative side his genius and resourcefulness are exemplified in the creation of modern Long Grove and all that it implies, not forgetting spade-work of the same kind at Bexley and Ewell. Clinical recording, classification and employment of patients, acute hospital and villa accommodation, the education and training of mental nurses have all received advancement at his hands. The position of psychological medicine among the medical and allied services has been his particular care, and his views and influence have made themselves felt in this field.

It was said of Gaskell that he was ever a warm supporter of the Association.

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Can anything more true be said of Dr. Bond? He became a member in 1892, and his Association record is one of constant activity in some capacity or other. For six years (1906-1912) he was perhaps the most assiduous and energetic General Secretary we ever had. He has almost continuously been a member of the Council and of standing committees. From 1920–26 he was Chairman of the Second Post-Graduate Study Committee. The Association showed its appreciation of these services by electing him President in 1921. It can be said of him that whatever his interests and duties and however loyal he has been to their call, his heart has ever been with the work of that great representative body of psychiatry—our Association.

It is not for me to comment on his work as a Commissioner of the Board of Control, nor is it necessary to my purpose. Nevertheless it is permissible for me to say that as a Commissioner no one is made more welcome in mental hospitals of all kinds, for however keen his criticism, he never fails to leave behind him comfort, enlightenment and encouragement. (Applause.)

As to his war services, only a few of us know how really valuable was his work during that time, and how deeply he was involved in various undertakings of great national importance. All of us know how he was mainly instrumental in the creation of those great war hospitals that rose like magic in the night from the transfiguration of many of our public mental hospitals. Further, his advice and counsel were invaluable to the War Office Shell Shock Committee, of which he was a member from 1920 to 1922.

Though I have left much unsaid that redounds to Dr. Bond's credit, I feel I have said enough to justify his election. As to Dr. Bond as a friend and guide I confess I am totally inadequate, but I would ask you this question: Which of you can say you are not in debt to him for some kindly thought or deed? (Applause.)

Many will hail his election as honorary member with pleasure, none will deplore it, and I leave the issue with confidence in your hands. (Loud applause.)

Dr. Eugen Bleuler.

There died in 1926 that great master of descriptive psychiatry, Emil Kraepelin, whose name from 1909 had been an ornament to our roll of honorary members, and I propose that you should fill that vacancy in what I conceive to be the only adequate way, *i.e.*, by adding the name of Eugen Bleuler, M.D., Director of the Psychiatric Clinic at Zurich, who last year received the homage of psychiatrists throughout the world on the occasion of his seventieth birthday.

Modern conceptions in psycho-pathology owe their inspiration very largely to his writings and clinical teaching. His psychological and dynamic view-point has encouraged us to visualize our patients not so much as sufferers from mental disease entities parallel to physical disease entities, but as "reaction types." His conception of syntonic and schizoid personalities has had fruitful results clinically, and has assisted a host of psychiatrists in the solution of the "why" of abnormal behaviour in psychopathic states.

Bleuler may be regarded as pre-eminently the master of that interpretative side without which clinical psychiatry is a mere empirical science and an uncertain guide to treatment.

As a symbol of the great respect British psychiatry has for his great achievements and his life-long labours in the cause of the mentally afflicted, I feel his election as an honorary member is assured. (Applause.)

Mr. Macmillan.

Honour is due to the Rt. Hon. Hugh Macmillan, P.C., K.C., M.A., LL.B., Hon. LL.D., F.R.S.E., for the signal service he has rendered to suffering humanity, by the very able manner in which he presided over the Royal Commission on Lunacy and Mental Disorder. His remarkably astute and penetrating examination of the evidence submitted to the Commission and of the problems with which it dealt excited the lively admiration of all who followed the proceedings. It undoubtedly secured for the Commission the confidence of the public, and enabled it to issue a report which represented a painstaking and honest endeavour to arrive at the truth, especially in regard to the care and treatment

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of patients in the mental institutions—a matter which, by a vicious propaganda, had "got on the nerves" of many people. This thoroughness of inquiry was just what our Association had asked for, and we are grateful to Mr. Macmillan for having been so largely instrumental in carrying it out. It resulted in the confirmation of many of the medico-psychological ideals of the Association, and in a general restoration of public confidence in lunacy administration and the psychiatric services in this country.

Mr. Macmillan has continued his great interest in the subject of mental hygiene. His advice in our efforts for the advancement of psychological medicine will be much valued and his admission to the Association as an honorary member greatly welcomed. (Loud applause.)

Corresponding Members.

Continuing, Dr. LORD said: I now come to the names of those proposed in accordance with Bye-laws 12 and 13 for election as corresponding members.

The class of corresponding members came into existence with the Revised Rules of 1879, and the first corresponding member, namely, H. Kornfield, M.D., of Silesia, was elected at the Thirty-fifth Annual General Meeting, held on July 30, 1880, at Cheadle, Manchester. There are still four members living who attended that meeting half a century ago, namely, Sir James Crichton-Browne, Sir Edward Marriott Cooke, Dr. T. W. McDowall and Dr. Fletcher Beach.

There is little doubt that this class of member was instituted primarily to keep the Association, through its Journal, in touch with foreign and colonial psychiatry. Until the reconstruction of the current literature department of the Journal in 1900, it was customary for corresponding members to contribute to the Journal, either annually or occasionally, retrospects of psychiatry in their countries. Since then the practice has gradually ceased.

To any appeals for information our corresponding members have always responded loyally, and it is now the policy of the Research and Clinical Committee to effect a close *liaison* with scientific psychiatry through their intermediary. For this reason the number and distribution of corresponding members is likely to increase in the future.

It is necessary, therefore, that a corresponding member should be a physician of high standing in his own country as a writer, teacher or research worker in psychiatry or kindred subjects. The Association, in electing him as a corresponding member, honours him for the fine work he has done and extends to him a cordial invitation for co-operation in the advancement of psychiatry.

I claim that all the candidates now proposed are fully qualified to be corresponding members, and the bestowal of this honour by the Association to be, in each instance, well merited.

Dr. Malcolm Andrews Bliss.

In electing Dr. Bliss a corresponding member, it will not be the first time the Association has done honour to a physician of St. Louis, U.S.A., for in 1881, on the occasion of the International Medical Congress, the name of Dr. C. H. Hughes of that city found a place on our roll of honorary members, together with those of Brosius, Brown-Séquard, Benedikt Fournié, Krafft-Ebing, Mierzejewski, Peeters, Semal, Tamburini, Virchow and Voisin. The rule (Cap. VII, 2) that the number of honorary members elected annually shall not exceed three was suspended for that purpose. Dr. Hughes, who worthily represented American psychiatry, was an authority on moral insanity and reported on that subject to the Congress. Malcolm Andrews Bliss, M.D., neurologist, psychiatrist and sociologist, was born at Warsaw, Illinois, in 1863. He was Clinical Lecturer in Nervous and Mental Disease in Washington University Medical School, St. Louis, 1896 to 1918. He is Honorary President, Missouri Society for Mental Hygiene; Chairman of the Board of the St. Louis Psychiatric Clinic; Consultant in Neuro-Psychiatry, St. Luke's Hospital, St. Louis Mullanphy Hospital, St. Louis City Sanitarium, and Glenwood Sanitarium; Member of the American Neurological Association, the American Psychiatric Association, the American Association for the Study of Feeble Minded, the American Association for the Advancement of Science, the National Committee for Mental Hygiene; Vice-President of the

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American Occupation-Therapy Association; past Chairman of the Section on Neuro-Psychiatry, Southern Medical Association; and member of local and State and sectional societies.

Dr. Bliss recently visited this country and addressed the National Council for Mental Hygiene. Those of us who met him on that occasion were much struck by his earnestness and sincerity. His work for the advancement of psychiatry and its application to pressing social problems of the day is one to be envied, and is probably unique even in a country so strong in organizations as America.

The Association, I feel sure, will be proud to admit him as a Corresponding member. (Applause.)

Dr. Cornelius Ubbo Ariens Kappers.

The lives of some great men can be likened to the fisherman who casts a net in the sea and successfully lands an abundance of fish of all kinds; others ply the rod in selected spots for fish of a particular kind upon which the heart is set. While Dr. Bliss can be likened to the former, certainly the latter affords a good simile in the case of C. U. Ariens Kappers, M.D., the illustrious Director of the International Institute for Brain Research in Amsterdam, founded by the Netherlands Academy of Science. There, as the first director, he has collected an unrivalled museum of comparative brain anatomy of which he has made good use. Born in 1878, at Groningen, Kappers was educated at the Burger School in Leeuwarden (Friesland), where his father was headmaster. He studied medicine in Amsterdam under Place (physiologist), Van Rees (histologist), Rotgans (surgeon), and Winkler (neurologist). In the laboratory of the last-named teacher, he did research work on the development of nerve-sheaths, for which he was awarded a gold medal by the University.

His thesis attracted much attention, and the Professor of Zoology at Utrecht (Hubrecht) was so struck by his talents that he secured for him opportunities for research at the Zoological Station in Naples. Here he studied the centres and nervous paths in the brains of Teleostii and Selachii, and for his dissertation on this subject in 1904 he gained the degree of M.D. from his University. He continued his histological work at the surgical clinic of Prof. Rotgans at the Cancer Institute in Amsterdam. Soon afterwards he became an assistant at the Edinger Institute, Frankfort, where he stayed until invited to assume his present position. Here he commenced his studies on the motor nuclei of the medulla and built up his theory of neuro-biotaxis. His studies on comparative brain anatomy secured for him a world-wide fame. He has embodied them in his great *Text-book on the Comparative Anatomy of the Nervous System*—a standard work, published in 1920 and 1921.

Kappers has travelled widely and has collected specimens wherever he has gone. He took the Chair of Anatomy of the Rockefeller Foundation in Peking for a year, and brought home with him a collection of Chinese brains which he is now studying.

He has also found time to interest himself in psychological subjects, but these do not divert him from his main object in life.

His name will add lustre to the roll of corresponding members, and his presence at our meetings will be heartily welcomed.

Prof. George H. Kirby.

Few psychiatrists in the United States inspire greater confidence than does George H. Kirby, M.D., Director of the State Psychiatric Institute on Ward's Island and Professor of Psychiatry in the Columbia University. This is evidenced by his recent appointment as Director of the new Psychiatric Institute and Hospital, the foundation of which was described in a recent number of the *Journal*.

His contributions to psychiatric literature are many and important, and in them shine common sense and reliability which are his special gifts. One is not surprised, therefore, that he has been selected to occupy this particularly onerous post.

From my personal knowledge of him, apart from the great and fully deserved reputation he has earned as a sound clinical psychiatrist and skilled administrator,

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he will be most useful to us as a corresponding member. His election will also be a symbol of that hearty goodwill we all feel towards New York's latest undertaking for the welfare of the mentally afflicted.

Prof. Giacomo Pighini.

The Association, ever desirous of forwarding research work in all aspects of psychiatry, delights to take note of progress made in every country in the world, and seizes with pleasure any opportunity of doing honour to those who enrich our knowledge of mental pathology and its contributory sciences, medical or otherwise. Particularly is honour due to those striving to chart unexplored and difficult territory, such as the bio-chemistry of the nervous system.

Such a one is Giacomo Pighini, M.D., Director of the Lazzaro Spallanzani Scientific Laboratories of the Psychiatric Institute of Reggio Emilia, Italy, a worthy successor to Prof. A. Tamburini, who in 1905 migrated from there to the Psychiatric clinic in Rome to succeed the famous Sciamanna.

In 1881 Tamburini was elected an honorary member, and in honouring Prof. Pighini, the Association for the second time pays a tribute to Reggio Emilia, the premier institute of psychiatry in Italy. In Prof. Tamburini's time Reggio Emilia gave Italy most of its directors of asylums and professors of psychiatry. Its fame has been secure in the hands of Pighini, and the flow of fine research from its laboratories continues unabated.

Prof. Pighini's own share in this is both extensive and important and chiefly related to bio-chemical problems of psychopathic states. With the death of Senator Leonardo Bianchi, Italian psychiatry no longer has a place in the "live" roll of honorary members, and the vacancy thus created could be filled over and over again without difficulty. Of the several Italian psychiatrists the Association could well select for this honour Prof. Pighini would be one, such is the high position he has attained in Italian psychiatry—but that will be another story.

Dr. August Wimmer.

The last name on the list is that of August Wimmer, M.D., Professor of Psychiatry at the University of Copenhagen. He will be present this afternoon as the accredited representative of the Association of Danish Alienists. He is no stranger to this country: he speaks our language fluently and has studied at our medical schools and hospitals. He is held in high esteem as a writer, teacher and clinician. His chief work *Chronic Epidemic Encephalitis*, published in English last year, has strengthened the link between Danish and English psychiatry. He has also done valuable work on the syphilitic psychopathies, especially of the non-paralytic kind, of which he has made a special study. Another striking study is his *Leben und Trieben*. Time will not permit of more than very meagre description of this talented man. As the honoured guest of the Association he is sure of a hearty welcome, which I hope will be rendered doubly so by his admission to actual membership.

The PRESIDENT appointed as scrutineers for the ballot Dr. W. M. Buchanan and Dr. S. J. Graham.

The Honorary, Corresponding, and Ordinary Members were then balloted for, and unanimously elected, namely:

Honorary Members.

CHARLES HUBERT BOND, *C.B.E.*, D.Sc., M.D., F.R.C.P., Commissioner, Board of Control (England and Wales).

Prof. EUGEN BLEULER, M.D., Director, Psychiatric Clinic, Zurich.

The RT. HON. HUGH MACMILLAN, *P.C.*, K.C., M.A., LL.B., Hon. LL.D., F.R.S.E.

Proposed by Drs. J. R. Lord, Hamilton Marr, J. Chambers, J. B. Tighe, W. M. Buchanan, and R. Worth.

Corresponding Members.

MALCOLM ANDREWS BLISS, M.D., Consultant in Neuro-Psychiatry, St. Luke's Hospital, St. Louis, U.S.A.

C. U. ARIENS KAPPERS, M.D., Professor of Neuropathology, Central Institute for Brain, Amsterdam.

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GEORGE H. KIRBY, M.D., Professor of Psychiatry, Columbia University, and Director, Psychiatric Institute, Wards Island, New York, U.S.A.

GIACOMO PIGHINI, M.D., Professor of Psychiatry, Instituto Psychiatrio di S. Lazzaro, Reggio Emilia, Italy.

AUGUST WIMMER, M.D., Professor of Psychiatry, University of Copenhagen.

Proposed by Drs. J. R. Lord, Hamilton Marr, J. Chambers, and R. Worth.

Ordinary Members.

ALEXANDER, JAMES WILLIAM MACGREGOR, M.B., Ch.B.Glasg., Assistant Medical Officer, City Mental Hospital, Mapperley Hill, Nottingham.

Proposed by Drs. Geo. L. Brunton, J. B. Tighe, and D. H. Cameron.

CHENNELL, EILEEN ANNE, M.R.C.S., L.R.C.S.Lond., Junior Assistant Medical Officer, Cheddleton Mental Hospital, near Leek, Staffs.

Proposed by Drs. W. F. Menzies, F. H. Stewart, and W. D. Wilkins.

COPELAND, CECIL LEONARD, M.B., Ch.B.Liverp., Assistant Medical Officer, West Riding Mental Hospital, Wakefield.

Proposed by Drs. J. Shaw Bolton, J. F. Smyth, and H. Edelston.

DOUGLAS-MORRIS, ERNEST MANNERING, L.M.S.S.A., Neurologist, Ministry of Pensions Clinic, Nottingham; Belvoir Nursing Home, Aston-on-Trent, Derby.

Proposed by Drs. David Hunter, Geo. L. Brunton, and J. B. Tighe.

GALLAGHER, CHARLES EDDIE, M.R.C.S., L.R.C.P.Lond., F.C.S., Assistant Medical Officer, Leavesden Mental Hospital, Abbot's Langley, Watford, Herts.

Proposed by Drs. R. M. Stewart, J. P. Park Inglis, and R. Worth.

HAMILTON, JOHN GERARD, M.B., B.S., M.R.C.S., L.R.C.P.Lond., Deputy Medical Superintendent, The Coppice, Nottingham.

Proposed by Drs. David Hunter, Geo. L. Brunton, and J. B. Tighe.

HARROWER, WILLIAM MCCONNACHIE, M.B., Ch.B.Glasg., Research Student, Glasgow Royal Mental Hospital, Gartnaval.

Proposed by Drs. D. K. Henderson, A. McNiven, and A. G. W. Thomson.

HUNTER, JAMES DEWAR HUNTER, M.B., Ch.B., N.Z., Dipl. Psych., Assistant Medical Officer, Kingseat Mental Hospital, Newmachar, Aberdeenshire.

Proposed by Drs. H. de M. Alexander, Douglas B. M. Lothian, and M. Evelyn McLaren.

HYTCH, DOROTHY PRESTON, M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, Horton Mental Hospital, Epsom.

Proposed by J. R. Lord, and Drs. Allen Hancock, and F. G. L. Barnes.

LOWSON, WILLIAM, M.B., Ch.B.St.Andr., Medical Officer, The Moat House, Tamworth; 9, Colehill, Tamworth, Staffordshire.

Proposed by Drs. Wm. Reid, A. L. Taylor, and John C. MacKenzie.

MACGILP, FINLAY DUNCAN, M.B., C.H.B.St., Andr., Assistant Medical Officer, Durham County Mental Hospital, Winterton, Ferryhill, Co. Durham.

Proposed by Drs. Geo. F. May, Donald Ross, and J. B. Tighe.

MILL, LAURA MARGARET DOROTHEA, M.B., Ch.B. Glasg., Assistant Medical Officer, James Murray's Royal Asylum, Perth.

Proposed by Drs. W. D. Chambers, D. K. Henderson, and M. R. Knight.

PERK, DAVID, M.B., Ch.B.Leeds, Junior Assistant Medical Officer, West Riding Mental Hospital, Menston, near Leeds.

Proposed by Drs. S. Edgerley, J. Shaw Bolton, and R. Clive Walker.

WILSON, EDWARD ALEXANDER, M.D., Ch.B.Edin., Assistant Medical Officer, Caterham Mental Hospital, Surrey.

Proposed by Drs. J. Leslie Gordon, P. M. Turnbull, and H. Dove Cormac.

9. COMPLIMENTARY MOTIONS AND ANNOUNCEMENTS.

The PRESIDENT said it was a matter of great gratification to the Association that H.R.H. Princess Mary, Viscountess Lascelles, had accepted the Association's Nursing Medal in Gold and the Honorary Certificate of Proficiency in Mental Nursing. (Loud applause.) The Council had approved the design and wording of the certificate submitted by Dr. Lord which could be seen by members after the morning meeting.

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The winner of the Gaskell Gold Medal and Prize for 1928 was Dr. F. R. Martin, of Long Grove Mental Hospital, Epsom.

The following New Year Honours (1928) had been conferred by H.M. the King:

O.B.E. (Civil).

Miss Mary Mitchell Thorburn, R.R.C., Matron, Horton Mental Hospital, Epsom.

M.B.E. (Civil).

Miss Jane Mottershead, Senior Assistant Matron, Cheshire County Mental Hospital, Macclesfield.

Dr. LORD suggested that letters be sent congratulating these ladies on the honour they had received. [**Agreed.**

AFTERNOON SESSION.—WEDNESDAY, JULY 11.

Dr. Hamilton Marr, the retiring President, in the Chair.

10. THANKS TO THE RETIRING COUNCIL AND OFFICERS.

Dr. S. J. COLE said it gave him much pleasure to propose a vote of thanks to the retiring Council, President and Officers of the Association. It was evident at the morning session what an amount of work they had done for the benefit of the members generally, and he was sure they deserved deepest thanks, and, he would add, affection.

The vote was carried by acclamation.

The retiring President returned thanks for the very cordial manner in which the retiring Council and Officers had been thanked. Their work had been done with pleasure. Such appreciation would be a perpetual stimulus to those taking office again to continue the good work, and an encouragement to new officers to emulate them.

11. INDUCTION OF PROF. J. SHAW BOLTON TO THE OFFICE OF PRESIDENT.

Dr. HAMILTON MARR, continuing, said that in that most charming of all stories, *The Vicar of Wakefield*, you will remember that the vicar wrote an epitaph for his wife, "though still living," in which he extolled her prudence, economy, and obedience till death; and having got it copied fair, with an elegant frame, it was placed over the chimney-piece, where it answered several very useful purposes. "It admonished my wife of her duty to me and my fidelity to her; it inspired her with a passion for fame, and constantly put her in mind of her end."

The time has now come for me to give up the office of President, and install my sueccssor. It would take up too much time to make anything but a passing reference to the scientific work which has gained for Professor Shaw Bolton world-wide fame. I shall refer only to the transparent sincerity of the man, to his untiring energy and his scrupulous accuracy in everything that he does; to his thoughtfulness, wisdom, probity, and all the qualities fitting to lead the Association in the varied, and difficult problems that lie before it. This is my epitaph for the new President, and I frame it, as it were, by now investing him with the badge of office, and expressing the fervent hope that he will have a most successful term of service.

(The President then invested Prof. Shaw Bolton with the Presidential Badge amid loud applause.)

The President in the Chair.

12. INVESTITURE OF THE EX-PRESIDENT WITH THE PAST PRESIDENTIAL BADGE.

Prof. SHAW BOLTON said his first duty as President was a very pleasant one. It gave him peculiar pleasure to hand Dr. Hamilton Marr the Past-President's Badge, as it was the first occasion on which this had been done publicly. It was being presented to one whose conduct in the Chair he, the speaker, hoped to emulate.

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He expressed the hope that Dr. Hamilton Marr would live many years to wear it at the Association's functions, as an earnest of the Association's gratitude for his services. (Applause).

13. PRESENTATION TO THE PRESIDENT OF FOREIGN DELEGATES AND HONORARY AND CORRESPONDING MEMBERS ON THEIR ELECTION.

Dr. LORD said he had great pleasure in presenting to the President Dr. Edward N. Brush, Superintendent Emeritus, Sheppard and Enoch Pratt Hospital, Maryland, who had been an Honorary member of the Association since 1902, and who brought greetings from the American Psychiatric Society. (Applause.)

He had equal pleasure in presenting Dr. Hans Evensen, the President of the Norwegian Medico-Psychological Association. (Applause.)

He had the honour to present Dr. C. Hubert Bond, a Commissioner of the Board of Control, who that morning had been elected an Honorary Member of the Association. (Applause.)

Likewise the honour fell to him to present Dr. August Wimmer, Professor of Psychiatry in the University of Copenhagen, on his election as a Corresponding Member. (Applause.) Professor Wimmer had also been charged with greetings from the Association of Danish Alienists.

Dr. E. N. BRUSH said he was like the boy in Sunday-school who, when asked by the teacher "What can I talk about?" replied "Five minutes, Sir." (Laughter.) He was present as representative of the American Psychiatric Society to convey to the Association most hearty greetings from across the sea. (Applause.)

Dr. HANS EVENSEN said: The Norwegian Medico-Psychological Association, of which I have the honour of being the President, was gladly surprised by receiving the invitation from the Council of the Royal Medico-Psychological Association to send delegates to its annual meeting this year. While we not uncommonly see British colleagues at the meetings and congresses of a more or less international character in Germany, France and other countries, this is the first time that we have been officially called upon to send delegates to a British psychiatrical meeting. We appreciate it so much the more as we have been feeling the absence of any regular connection between Great Britain and the Scandinavian countries in scientific work. Psychiatry in Norway has been chiefly under the influence at one time of German, at another time of French psychiatry, and I am sorry to say that, generally, we are regrettably ignorant of what British psychiatry has done in the last decennium. This is a somewhat deplorable fact, because I am convinced that we have much to learn from our British colleagues, not only scientifically, but in regard to the equipment and management of all kinds of institutions for the mentally affected or feeble-minded. I can say this so much the more emphatically as, personally, I am much indebted to British alienists for many inspirations and much information. Nearly thirty years ago I worked in the laboratory of Scottish asylums, and then, and afterwards, had the honour of being acquainted with such men as Sir Frederick Mott, Sir Thomas Clouston, Dr. Ireland, Prof. George M. Robertson, and Dr. Hamilton Marr. Above all, I secured a friend for a lifetime in Dr. Ford Robertson, one of the most idealistic, ardent and persevering workers. I remember how several times I suggested to him: "Suppose you come to a blind end, would it not be well for a time to try to attack your problem from another point of view?" But he went his own way untroubled to the last, as if driven by a tragic fate, unconcerned even by the fact that he was not, perhaps, so fully appreciated in life as he deserved to be. Last summer Dr. Henry Cotton, the American representative of what may be called the surgical aspect of psychiatry, came to Norway, and in a lecture at our University Psychiatric Clinic, gave much honour to Dr. Ford Robertson for his pioneer work in laying stress upon local infections as a factor in the ætiology of mental complaints. Profound scientific work, even if it is based on false suppositions, cannot but be of value in one regard or another, and the leading idea of Dr. Ford Robertson—to bring psychiatry into line with general medicine—has become the chief working principle of psychiatry to-day.

And on this occasion I would not like to miss the opportunity of uttering a few

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words of thankfulness and sympathy in memory of this British pathologist who willingly shared his experiences with his younger foreign brother.

It may seem to you strange that I should mention personal reminiscences. However, they serve to show how studying abroad can draw nations together in harmony with the work of this Association, and are reflected in the spirit in which the invitation to us was extended.

In the name of the Norwegian Medico-Psychological Association, I beg of you to accept our heartiest thanks for this cordial invitation, and I wish you, Mr. President, our best wishes for a successful meeting. (Applause.)

Prof. WIMMER: I want, in the name of the Danish Association of Alienists, to express our most hearty thanks to the Royal Medico-Psychological Association for having so kindly extended its invitation to us to attend this annual meeting. I judge it to be of the very highest importance that there should be a close contact between psychiatrists and neuro-psychiatrists of different countries, who should meet as often as possible. A man and his work cannot be separated, and in conversing with a man you get more closely in touch with his ideas than by merely reading his books.

I desire to say that I also represent the Faculty of Medicine of Copenhagen. There has been a very close connection between Danish and English scientists. I may tell you that our small country was one of the first to adopt the teaching of your famous Lister on antiseptics. (Applause.)

Finally, I want to express thanks on my personal side. I am very much honoured by being elected a Corresponding Member of your old and illustrious Association. I hope in a short time that I may be able to do some scientific work which may indicate to you the inspiration I have received from English psychiatrists since my stay here in 1902, at the National Hospital, until to-day.

14. PRESENTATION OF GASKELL MEDALS AND PRIZES.

The PRESIDENT said it was now his pleasant duty to present the Gaskell Gold Medal and Prize for 1927 to Dr. Elizabeth Casson. It was the highest prize given by the Association, and this was the second occasion on which it had been presented to a lady.

15. THE PRESIDENTIAL ADDRESS.

The PRESIDENT then delivered his Address, on "The Evolution of a Mental Hospital—Wakefield, 1818–1928" (*vide* p. 587).

16. VOTE OF THANKS TO THE PRESIDENT FOR HIS ADDRESS.

Sir ROBERT ARMSTRONG-JONES said he preferred, on such occasions as this, to be adamant, and not to speak, but the request from a most active as well as most honoured and respected member of the Association (Dr. Lord), that he should propose this vote of thanks found him malleable and responsive; and therefore he rose with very great pleasure to propose a vote of thanks to the President for his unusually interesting address. Few knew, perhaps, that Prof. Shaw Bolton and he were colleagues at Claybury, under the London County Council, for some years; they had now both left some years, but were still on speaking terms—(Laughter)—which spoke a great deal for Prof. Shaw Bolton's toleration and affability.

Prof. Shaw Bolton had given a most interesting record of the work and research at Wakefield Mental Hospital, and the address not only covered the ground of administration, but that of scientific research, and the ethics of moral treatment, supplemented also, by the work of the mental nurse.

There was no discussion on a President's address, therefore he must confine himself to the vote of thanks. The record at Wakefield included extraordinarily distinguished names. There was Dr. Cleaton, the wise and able lunacy commissioner, succeeded in 1865 by Sir James Crichton-Browne. And in reference to the latter, as the President had had a good deal to say about Sir James Crichton-Browne, the great scientist and distinguished orator, Sir Robert suggested that the Association should send its greetings, signed by the President and Col. Lord, to Sir James, and also to another distinguished predecessor, Prof. Bevan-Lewis. (Applause.)

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Prof. Shaw Bolton's researches were known throughout the whole medical world; he was mentioned in all recent books on Neurology and Psychiatry, and on the lamination of the cerebral cortex. Prof. Shaw Bolton's work in the Claybury laboratory was the basis of a well-known lecture, delivered some years ago, in commemoration of Bowman. It was a matter of regret that his old fellow-worker and Sir Robert's own colleague, Dr. Watson, of Rainhill, was not able to be present. Both worked in the laboratory at Claybury, when Sir Frederick Mott was the Pathologist, and he, the speaker, was Medical Superintendent.

Another word he would like to allow himself to add was a reference to the alliance of university work with that done at the mental hospitals. He maintained that in order to achieve thoroughly sound scientific work and remedial treatment there should be an alliance between our mental hospitals and research work and teaching in the universities.

He was sure all wished Prof. Shaw Bolton a very happy year of office as President of this Association. Successful it was bound to be.

Lastly, he was reminded of a statement by Mr. Joseph Chamberlain, that he was only happy with his own people. The same was true of their President, who had arranged that the whole of this Conference—meetings, discussions, clinical and scientific demonstrations, not excluding the hospitality which accompanied them—should take place in his own institution. (Applause.)

Dr. J. BRANDER, in seconding the vote of thanks, said he was sure many felt they had been privileged to see Wakefield under extremely favourable conditions. It had also been a privilege to hear from the lips of the President the history and traditions of the institution, and the spirit which had been responsible for it having arrived at its present position.

The resolution of thanks was put by Sir Robert Armstrong-Jones, and carried with acclamation.

[*Adjournment.*]

Acting on the suggestion made by Sir Robert Armstrong-Jones, the following telegrams were exchanged—

To Sir James Crichton-Browne :

Greetings from the Association in Annual Meeting now assembled at Wakefield, where your name and work will ever endure.

General Secretary.

[Reply.]

Deeply gratified by your message. It revives happy memories of strenuous days, half-a-century ago, and of the ever generous kindness of my brethren of the craft.

James Crichton-Browne.

To Dr. BEVAN-LEWIS :

Affectionate greeting from the Association in Annual Meeting now assembled at Wakefield.

General Secretary.

[Reply.]

Much appreciate affectionate greetings and warmly reciprocate.

Bevan-Lewis.

THE ANNUAL DINNER.

The Annual Dinner was held, by the courtesy of the Committee of Visitors and the Medical Director, in the Hall of the " New Acute " of Wakefield Mental Hospital, on Wednesday evening, July 11, 1928.

The hall and tables had been most tastefully decorated by the officers of the hospital under the direction of Mrs. Shaw, Bolton. The lighting was very effective, and the lamp-shades, bearing the Coat of Arms of the Association, were much admired.

The catering was by Mr. Ernest Matthewman, Assembly Rooms, Wakefield, and wines by Messrs. Alfred Moodie, Little Westgate, Wakefield, and the service was excellent.

The hospital orchestra, under the leadership of Mr. T. Robinson, rendered a suitable programme of music, and there was some fine singing by Messrs. Arthur

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Dickinson and Harry Clayton of the nursing staff. Both contributed materially to the evening's enjoyment and were much applauded.

Orders, decorations, emblems of office, and past-presidential badges were worn. These with the toilets of the ladies, the profusion of flowers and lighting effects, made up a scene of unusual brilliancy.

The Chair was occupied by the President, Prof. J. Shaw Bolton, D.Sc., M.D., F.R.C.P.

The company was received by the President and Mrs. Shaw Bolton at 7.15 for 7.30 p.m., and the official guests included the Vice-Chancellor of the University of Leeds (Dr. J. B. Baillie, *O.B.E.*), the Mayor and Mayoress of the County Borough of Wakefield (Councillor G. B. Hillman, *M.B.E.*, *J.P.*, and Mrs. Hillman), the Chairman of the West Riding Mental Hospitals Board (County Alderman H. Lockwood, *J.P.*), the Chairman of the West Riding Mental Hospital, Wakefield (County Alderman A. K. Blackburn, *J.P.*), the Chairman of the Finance Committee, West Riding Mental Hospitals Board (County Alderman D. Hardaker, *J.P.*), Dr. and Mrs. Brush (U.S.A.), Prof. and Mrs. Wimmer (Denmark), Dr. Hans Evensen (Norway), the Medical Officer of Health for Wakefield (Dr. Thomas Gibson), the Coroner (C. J. Haworth, Esq.).

In addition to the Vice-Chancellor, the University of Leeds was represented by Prof. W. H. Maxwell Telling (Head of the Department of Medicine), Dr. T. Wardrop Griffith, *C.M.G.* (late Head of the Department of Medicine of the University of Leeds), Prof. B. A. McSwiney (Physiology), Prof. J. F. Dobson (Surgery), Prof. Carlton Oldfield (Midwifery and Gynæcology), Prof. John Strong, *C.B.E.* (Education), and Dr. Ll. Wynn Jones (Lecturer in Psychology).

The following were officially invited, but unable to attend: The Bishop of Wakefield, the Vicar of Wakefield (Canon McLeod), Geoffrey Ellis, Esq., M.P. for Wakefield, the Dean of the School of Medicine, Leeds (Prof. J. Kay Jamieson), the Professor of Pathology (Dr. M. J. Stewart), the Professor of Bacteriology (Dr. J. W. McLeod), the Vice-Chairman of the West Riding Mental Hospital, Wakefield (County Alderman R. Gill, *J.P.*), the Chairman of the West Riding Mental Hospital, Storthes Hall (County Alderman A. Booth, *J.P.*), the Chairman of the West Riding Mental Hospital, Wadsley (County Councillor E. Rose, *J.P.*), the Chairman of the West Riding Mental Hospital, Menston (Councillor Alfred Corker, *J.P.*), Alderman John Thornton, *J.P.*, and the Deputy-Clerk to the County Council (J. C. McGrath, Esq.).

TOASTS.

The PRESIDENT proposed the toast of "His Majesty the King," and in submitting it, said it was one which needed neither speech nor commendation from him.

It was loyally pledged, to the accompaniment of the National Anthem.

"THE WEST RIDING MENTAL HOSPITALS BOARD."

Sir ROBERT ARMSTRONG-JONES, *C.B.E.*, in submitting this toast, said that in the *Times* of July 4 and 5 appeared two conspicuously able articles from the pen of Sir Frederick Willis, until recently the Chairman of the Board of Control. In those articles he dealt with the duties of mental hospitals' boards, of medical superintendents, and of nursing staffs. At the same time he also dealt with the duties of the public. Judging from the *Times* of that day (July 11) it seemed that the last word had not been spoken yet on these important subjects. The speaker had, however, been entrusted with a toast which he was sure would specially commend itself to the President and the Association. It was that of the West Riding Mental Hospitals Board. That Board, consisting of 54 members of county and county borough councils, managed four great institutions in this great county, one of which—Wakefield—had been entrusted to the safe keeping of the Association's President—(Applause)—and which, if he might borrow a phrase, could in truth be described as his spiritual home.

In the comprehensive toast which had been entrusted to him (Sir Robert), he might be pardoned if he concentrated somewhat upon the institution which, to-night, was in the minds of all present. There was something unique in the history of Wakefield, and, as the President said in his striking address that day, members were commemorating its past achievements in the hope of great things emerging from it in the future. (Hear, hear.) It was, therefore, opportune to say that there had evolved in its record an "atmosphere," a commonplace term,

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but one which was quintessentially inspiring to all present workers in neurology, psychology and psychiatry. (Hear, hear.) Those who were familiar with the organ of the mind knew that it might be arrested in its development, it might be disordered in function, and its activities might be suspended; they also knew that this disorder of the brain had been studied and elucidated and relieved here, and sufferers so afflicted were treated in this hospital by physicians bearing very great names. But he wished to say that no one could think of Wakefield without remembering involuntarily the other great refuges and sanctuaries for the mentally ill which the West Riding Mental Hospitals Board had provided, at Wadsley, at Menston, and at Storthes Hall, one of which (Menston) was the basis of the administration in the first London County Council Asylum at Claybury. Menston and Storthes Hall he had visited on the previous day. At Wakefield Dr. Cleaton was once medical director, and he was succeeded by Sir James Crichton-Browne, an orator and scientist. Sir James was further associated with Sir David Ferrier, whose memorable researches into the localization of cerebral function commenced at Wakefield.

To-day they all appreciated the work of Wakefield's present medical director, with which work he (the speaker) was himself personally familiar. Famous as Prof. Shaw Bolton was as an audacious but just critic of the sex teachings of some psychologists, he was in addition not less distinguished in many other directions than his illustrious predecessors. (Applause.)

It was obviously quite natural that such a school as this should attract earnest and capable workers from different parts of the country, he might say the world; to name some of the most celebrated *alumni*, there were Bond, Goodall, McRae, Whitwell, the genial MacBryan, and many others, all of whom were students at Wakefield, and owed that institution a great debt of gratitude.

The mental hospitals of the Board had been designed to relieve the most-dreaded of all infirmities and to restore the most afflicted, crippled and disabled of our fellow-men. They had been splendidly equipped, through the wisdom of the Board, with the most modern apparatus for research and scientific treatment, and these were being applied by a devoted and highly-trained and competent medical and nursing staff. The members of the Board, faithful in works of mercy, kindness and charity, were much burdened with many other public engagements. He had had the privilege of sitting next to Mr. Alderman Blackburn, and it might interest his hearers to know that out of 1033 public attendances at functions at which that gentleman's presence was demanded, he attended every one. (Applause.) Though laden with these other public engagements, they gave much time, thought and care to the interests of their patients in these hospitals, and thus helped to alleviate the distress of their sorrowful families. In addition, the Board was mindful of the needs and requirements of the staff, who served them faithfully, and who as the Royal Commission stated rendered great and devoted services to suffering humanity, often under very exacting conditions. The company, he was sure, wished these great institutions every success. He trusted that the efforts of the Board might accomplish the fullest possible recovery or restoration for those committed to their care, and that the hospitals would continue to be a standing example to others of this country. He was grateful, also, for the wonderfully capable intervention of the President with the Clerk of the Weather, who had kept away what had been described in the *Times* as a "deep Icelandic depression" which was likely to further deteriorate our weather. In conclusion, he wished to add the grateful thanks of all present for the generous hospitality which was being received from the Board (Applause); also for the much appreciated facility to hold their annual gathering in this institution.

He submitted the toast of the West Riding Mental Hospitals Board, coupled with the names of Mr. Alderman Lockwood—who was Chairman of the Board—Mr. Alderman Hardaker, Chairman of the Finance Committee, and his friend on the left, Mr. Alderman Blackburn, who had served no less than thirty-one years as a public servant, and was now the Chairman of the Wakefield Hospital Committee. He hoped that the Board's mental hospitals would continue to be developed on lines of humanity and scientific knowledge. (Applause.)

The toast was heartily pledged.

County Alderman H. Lockwood, *J.P.*, in responding, said that he had received an intimation that he was required to cut his remarks short. He did not propose

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to obey the injunction "Get up, shout up, shut up." But he would promise that his remarks would be brief. He wished, as Chairman of the Board, to give to the Association, at its 87th Annual Meeting, a hearty welcome to Wakefield. Thanks were due to those who, eighty-seven years ago, promulgated the idea of having an Association of this sort and making possible such a gathering as was here to-day. The Board would be delighted to know that the members visiting Wakefield had enjoyed themselves; he hoped that the means which had been provided by Prof. and Mrs. Shaw Bolton would prove to be such as met with their approval, and that they would benefit thereby both mentally and physically. (Applause.) Neither he nor any other members of the Board, save one, knew anything about psychology. He knew his wife frequently said, when she had met a woman, that she did not like her. Some called that psychology, but it seemed to be due to some peculiarity which the other woman seemed to have; it might not be what those present understood by psychology, but it was probably psychology in the raw state. (Laughter.) The Board would not be able to continue its work with that satisfaction referrred to by the proposer of the toast, and by others during the afternoon, had they not the whole-hearted support and learning of men like Prof. Shaw Bolton; they were all proud of their Medical Director. (Applause.) His, the speaker's, work extended to eighteen years on the Board. The Board had found it to their interest to have a satisfied staff, and a contented Medical Superintendent, whose attention was not to be concerned with wondering whether he would get a hundred pounds rise next year. He knew £100 a year did not worry some people he saw that evening—(Laughter)—but the Board had tried to avoid matters controlling their medical officers' activities, and, to a certain extent, they had succeeded. The Board made the boast—whether rightly or wrongly—that they had one of the most contented staffs which could be found in the United Kingdom. (Applause.) That arose, primarily, because it was recognized what value was when they encountered it; if the Committee got good servants, they retained them, and they paid them as well as they could afford to, and sometimes it was more than the public thought ought to be paid.

That brought him to another little point. The laymen and laywomen serving on this Board were elected, as a rule, for three years. They had not to go to the ratepayers and say "I will do this," "I will do that for you if you vote for me." But some went periodically to the ratepayers and said that in addition to education for the West Riding, and in addition to providing sanatoria for consumptives, they had another dread duty, to look after the best interests of seven thousand of the population who were, unfortunately, suffering from mental disorder, that they were the people who could make those lives happier. As a matter of fact he heard one candidate say—though not in so many words—that if the ratepayers would return him and those who believed with him, lunacy would soon be removed from the county altogether. (Laughter.)

He and his colleagues came on to the Board to do their duty, and fortunately they had the controlling force of the Medical Director, who kept them in their place. There were 54 on it, and one among so large a number did not seem much, but logic went a long way. For chopping logic, commend him to their Chairman that night, who chopped it so fine that one saw his point almost against one's will.

The proposer of the toast mentioned something about audacity; but it was the audacity of Shaw Bolton which had made Wakefield what it was at the present time. With regard to being content with what the Professor had done, the Committee had let him have his head, and he had not run them amuck in any respect. As a rule they had been able to recover, even if they had exceeded the exchequer. They could not do what a friend suggested they ought to be able to do; they could not go to Mr. Coppock and say "If you will put part of the expenditure on to the income side you will not have such a bad balance as you sometimes have." On the Board of 54 people were all sorts and conditions, and some were women. He had not much of an opinion of women in such circumstances, though he was wedded and had a big family, and nobody respected women more than he did; he was a suffragette almost before there were any.

The Board had achieved substantial progress during the time he had been associated with it, and he was always proud now to be able to say to them that there were men at the head of the hospitals who knew their work, who did it, and never spared themselves in the doing of it. As regards Wakefield the Committee

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did not claim credit for doing the things which were the outcome of the efforts of the Medical Director.

In conclusion, he hoped those present, whom he regarded as pioneers in the work of curing diseases, both physical and mental, would take it from an old man like himself that their work was not unappreciated; that people with heads on them gave to the medical profession, particularly those associated with lunacy, credit for all the work they were doing, and he wished to give them all the encouragement of which he was capable to continue in that work, which was so essential, not only for the generation now living, but also for those who would follow. (Applause.)

Alderman HARDAKER, *J.P.*, also responded. He said that, like his colleague, the Chairman of the Mental Hospitals Board for the West Riding of Yorkshire, he wished to extend to the members of the Association on behalf of the Board a welcome to Wakefield. He hoped that their deliberations would be everything they desired, and that the weather conditions would continue as favourable as to-day. As those present had already been made aware, the Board consisted of 54 members, and he thought it would be difficult to find, in any part of the British Isles, a board which was discharging its onerous duties and responsibilities more successfully than this one. (Applause.) It was realized to the full by that Board what were the responsibilities which pressed upon them as local administrators, and it was true, as the proposer of the toast said, that most of the members of the Board found themselves having to fill quite a number of other positions in addition to those connected with the Board. And, as the Chairman of the Board suggested, they were only laymen at the best, and had to trust implicitly to the lead of the medical superintendents in directing the affairs of this great Board. He believed it was generally admitted, even among the medical fraternity, that the mental hospital at Wakefield was one of the best equipped of such institutions in England —(Applause)—and the members of the Board were extremely proud of the fact. It could be said with truth, he believed, that they encouraged their medical superintendents in every good work in which they were engaged in trying to alleviate the sufferings of the unfortunate people who were committed to their charge. He, the speaker, represented the financial side of the organization. He was not in the position of the Imperial Chancellor of the Exchequer; he could not levy taxes for the maintenance of the patients and for the upkeep of the buildings, but they did have to levy precepts of authority for the maintenance of the patients, and there was a population of 7,000 patients under the Board's charge. He believed it was true to say that, in addition to the medical staff of the mental hospitals, there were over 1,000 nurses of both sexes, and the total expenditure for a year, on maintenance alone, was well over £500,000, while the expenditure for the maintenance and upkeep of the buildings was over £100,000. It would therefore be realized that the Board had a fairly heavy task on their shoulders, but it had to face it, and it was proud of its staff, both medical and nursing. The Board appreciated what was being done by the staff in relief of the condition of the patients, and was confident that so long as the present happy relations existed, the Yorkshire Board would bear its share in relieving, so far as was humanly possible, the unfortunate circumstances which compelled people to come into its charge. (Applause.)

To the ladies and gentlemen in the profession he desired to say that, in his view, they had a glorious opportunity. They knew the ills from which the patients suffered, and how to relieve and so improve their condition that they could return to their families. He wished them God speed! The Board was aware of the fact that the Lunacy Acts left much to be desired. It was anxiously waiting—he knew he was speaking in the presence of a representative of the Board of Control —to press on the Ministry of Health the desirability of amending the Lunacy Acts as had been promised, which would help his Board and similar bodies to discharge the duties placed upon them. (Much applause.)

"THE COUNTY BOROUGH OF WAKEFIELD."

Dr. J. R. LORD, in submitting this toast, said he confessed he was somewhat anxious when he was informed by the President that this toast had been entrusted to him. He, the speaker, recognized that it was an important toast, one which was not to be lightly undertaken, and that he was almost a stranger to the County Borough of Wakefield. He therefore had to take stock of what he knew about

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Wakefield, and it was soon apparent that he was sadly deficient in this respect. He knew, of course, that it was an ancient town, with some remarkable ecclesiastical buildings, and that it was the capital of the West Riding of Yorkshire. He also knew, from his schooldays, that it was the scene of a battle during the tough fight between Lancaster and York as to which should wear the crown of England, in other words, the War of the Roses. He remembered rejoicing as a Lancashire boy that the Yorkshiremen were beaten. He had learned since that the War of the Roses was the first blow at the Divine Right of Kings, which met its Nemesis in Cromwell's time. He recollected, also, that there was at Wakefield a bridge-chapel, the only one remaining; there used to be one in the centre of old London Bridge. He knew indeed, he had been warned about it, that *The Vicar of Wakefield*, Oliver Goldsmith's classic, had not to do with the town of Wakefield, but that Lissoy, Co. Westmeath, was the scene of the idyll. The main thing he did know of Wakefield, however, a thing which was ingrained in him from the time he attended the classes of Sir Thomas Clouston at Morningside, was that it was the seat of a mental hospital more famous than any other in England for scientific work. At Morningside the greatest importance was attached to the researches of Prof. Bevan-Lewis, the late Medical Director of Wakefield Mental Hospital. Wakefield, too, was associated with the names of some of the greatest psychiatrists, and its pupils were spread all over the world—many occupying high positions—translating into deeds the inspiration of Wakefield Mental Hospital. But as for the town of Wakefield, he thought it well to seek to repair the deficiencies in his knowledge in the best way he could. He felt he would like to visualize it as it was 100 years or so ago, and compare then with now, therefore he turned to some old books of about that time which he had been collecting for many years.

The first he turned to was *The Modern Gazetteer*, Edinburgh, 1808, which told him that Wakefield was an ancient, large and handsome town, and traded among other things in white cloths and tammies.

He then turned to *The Traveller's Guide* (W. C. Oulton), 1805, which described Wakefield as consisting of nine streets, three of which were large and commodious, meeting in a centre near the church, where might be found a very spacious market-place. The House of Correction had been rebuilt about 1770 in an airy situation upon a plan which exceeded most county gaols in England. It gave a description of the two inns, which he believed were still existing, the "Strafford Arms," and the "White Hart." He learned that the town catered for the lighter side of life by having a very elegant theatre and a racecourse, where was an elegant stand for the accommodation of noblemen, and a good number of booths for the company. It also mentioned the great Grammar School, founded in 1591, with scholarships for Oxford and Cambridge. The trade was in cattle, wool and stuff-making, with particular mention of "tammies," "wild bores," and "camblets."

Its namesake in Massachusetts made rattan boots and shoes. These were understandable, but further progress in his historical investigations was inhibited by "tammies," "wild bores" and "camblets." What did these terms stand for? Every dictionary was silent on the matter. He tried a word-association test with these words as keys. The response to "tammies" was "Scotchmen," that to "wild bores," "snouts," and that to "camblets," "handkerchiefs," which, taken together, seemed to indicate "snuff"—(Laughter)—that broke the spell, and he was able to get on. He relied upon his Worship the Mayor for further enlightenment.

The last book consulted was Paterson's *Roads*, 1822, which declared that Wakefield was one of the most handsome and opulent towns in the West Riding of Yorkshire, the streets being in general regular and spacious, and many of the houses large, lofty and elegant.

All that gave him inspiration to proceed further and to go into the subsequent history. He found that the West Riding of Yorkshire had a most interesting history indeed. It showed that the men of the West Riding had ever been sturdy and thrifty, sportsmen to the bone, tough fighters, but peace-lovers, and they had stood by Parliament in their fight against the tyranny of kings. He said "thrifty" because Wakefield Mental Hospital, the first one, was opened in 1818 for 120 patients, increased to 420 patients by 1844, and cost £46,620, or about £111 per bed, which was the cheapest in England at that time.

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Nevertheless, Lord Shaftesbury, in 1844, speaking in Parliament, specially referred to the admirable way the hospital was managed and treated its patients.

As a body, the Association got on very well with the local authorities. One reason was that it did not interfere with them, except to invite them to dinner. (Laughter.) It relied upon members individually to bring its ideals and policy before them. That, however, was not always so, for in his historical researches he discovered that at a general meeting on July 19, 1855, it was proposed, seconded and solemnly passed that asylum reports for the future were to be of the same size, namely, medium-sized octavo. (Laughter.) But it accepted, with pleasure, their abundant hospitality on many occasions throughout the year. He thought that there was one thing above all others the Association had done for the local authorities, and that was the creation of the modern-trained and certificated mental nurse. Until 1888, when the Association took her in hand she was a weak infant looking for a place in the sun. The famous Conolly, of Hanwell, wrote of her in 1847. Tuke's "companions" at the Retreat provided ideals, but the first serious attempt to educate the mental nurse occurred at the Crichton Royal in 1854, when Dr. W. A. F. Browne, father of that Sir James Crichton-Browne who helped to make Wakefield hospital famous, gave a course of thirty lectures to the nursing staff.

Sir Thomas Clouston helped matters on in 1876, Campbell Clark in 1884. Local certificates of training were being issued by this time in Scotland and London, but it could not be said that, until the Association stepped in, there existed anywhere in the world a definite and permanently established national educational authority for mental nurses. It was not, however, until 1891 that the mental nurse received the hall-mark of the Association, but both before and since she has been the Association's constant care. The local authorities encouraged her development and finally adopted her.

The Association fought for her to have a place on the State Register of Nurses with all nurses. But he regretted to say that since 1925, only a shadow of the body of trained mental nurses had arrived there. Still the Association would continue to fight on, and the certificated mental nurse would ultimately come into her rightful heritage without let or hindrance.

The Association had also been a shining light in regard to the psychiatric education of medical officers of mental hospitals, and its M.P.C. dated from 1885. It was the University of Leeds, however, that had led the way to a larger conception by being the first to establish a professional diploma in psychiatry, a movement which the Association took up with vigour and great success.

The Association was grateful to mental hospital authorities for the encouragement they had given to the holding of divisional clinical meetings, and of meetings of the Research and Clinical Sub-Committees. The former enabled psychiatrists and general practitioners to meet, thereby giving the latter opportunities, so regrettably inadequate, of studying mental diseases before graduation. His toast was symbolic of the cordial regard the Association had for all local authorities in their endeavour to do all within their power to improve the care and treatment of the mentally afflicted. It was in this spirit that he asked the company to drink to the County Borough of Wakefield; he was coupling with it the name of its Mayor, who, he was delighted to know, was a medical man. (Applause.) He had been told since he came, by more than one person, that Dr. Hillman was one of the best of men, and a help and encouragement to the Medical Director of this Hospital. They would also drink to the health of the Mayoress, whom they were delighted to see present.

The Mayor of Wakefield (Councillor G. B. Hillman, *M.B.E., J.P.*), in responding to the toast, said it was a very great pleasure to him to rise and respond to this toast, which had been so cordially proposed by Dr. Lord, and so kindly received by the gathering. Dr. Lord appeared to have been dipping rather deeply into the history of the town in a direction the speaker did not propose to follow him. As Mayor of Wakefield, and as representing its Corporation and citizens, he desired to offer to the Association a very hearty and warm welcome to the city. (Applause.) They were not unaccustomed in Wakefield to the arrival of visitors, though, unfortunately they did not always come of their own volition!—(Laughter)—in fact it had been known on the part of some of its visitors that even before they arrived in the town they were calculating the period which would elapse before they would be leaving it. In the west of the City was the Wakefield Gaol, which, in accordance with modern nomenclature, was called

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a "training centre." (Laughter.) In the east of the city was the asylum, which also, bowing down to modern views, was now called the "mental hospital." Therefore they did get a certain number of visitors from "abroad." But, after all, one was inclined to say with a philosopher—he did not at the moment remember whether it was Shakespeare or Shaw Bolton—"What's in a name? A rose by any other name would smell as sweet." And one could congratulate the Association that at all events the mental hospital to-day smelt a good deal sweeter than in the days gone by, and that this improvement was very largely due to the Association's efforts, and to its members individually. They, in Wakefield, were not a particularly scientific people, but they appreciated anything good when they saw it, and they were very proud of their mental hospital and its scientific Director. He had always felt it must be very nice to be possessed of a scientific mind, especially when confronted with the little things of life. Take the unfortunate occasion when one had an egg, and on tapping it found it was addled. The ordinary person said it was addled—he also said other things—and declared he would not touch another egg for at least a week. Not so with Prof. Shaw Bolton. His thoughts ran to the Zona Pellucida, the Membrana Granulosa, and structures of that nature, and to have a mind like that was an enormous compensation. (Laughter.) He and other scientists had a great advantage over the common order.

He wished the present company had the opportunity of seeing a few of the things which Wakefield could show them. If time allowed, the visitors could be shown the 14th century bridge with the Chantry chapel arising from it, referred to by Col. Lord; that was something worth seeing. Another sight was the old Office of Records, which had been in existence almost from time immemorial. Further, visitors would be interested in the old Elizabethan Grammar School and the office of the County Hall, and much in the way of interesting buildings. Also, had there been time, members of the Association could have been shown a good deal of the modern development of the Corporation in the ordinary social service of the day, which, it was maintained, in Wakefield was as good as, if not superior to, that of any other city of its size in the country.

He had been looking at the agenda of the discussions, and he found there was a paper on "Variation in the Agglutinin Formation in Mental Hospital Patients and its Probable Relation to Focal Sepsis," another on "The Relation of *Spirochæta pallida* to the Histological Changes in Dementia Paralytica." These were absorbing topics, but he found no word in that agenda which told him, as a general practitioner, how he was to avoid being mulcted in £20,000 damages if he signed a certificate for a lunatic! He commended that to the serious attention of the Association. No doubt members were too much in the clouds to dream of such a small thing as a question of £20,000 damages. Perhaps, however, in their spare moments, they could think of some means of circumventing a rapacious law. As he drove down to this beautiful place he said to himself, "What inducement is there to remain sane?" And when he found himself sitting between the Lord Chancellor's Visitor on his left, and a Commissioner in Lunacy on his right, he felt that he would have to be careful lest he "gave himself away." But even then he was considerably comforted, for, after all, one had only to be declared insane and then all personal troubles vanished, and one had the benefit of better grounds than one could get at one's own house. Moreover, there was neither worry nor anxiety, and one was looked after and made the most of. So he said, "Don't you think we are rather absurd in keeping out of these places?"

However, he would content himself with saying, once more, on behalf of his colleagues and himself, how very much he appreciated the toast which had just been pledged. He hoped the members would have an extremely good time, and that afterwards they would be able to look back to Wakefield with many happy memories. (Applause.)

"The University of Leeds."

Dr. C. Hubert Bond, *C.B.E.*, proposed the toast: "The University of Leeds." He said that to be entrusted with this toast was both an honour and a responsibility, and, in looking for pegs on which to hang the guy-ropes of his thoughts so as to bring them into some sort of order, his eye caught, not without admiration, the Arms of the University. Curiosity—might he say—conatively followed by scrutiny, filled him, however, with no little alarm, and that alarm had by no means

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subsided. With her motto "*Et Augebitur Scientia*" who would quarrel? But he confessed that the crest produced an unpleasant shiver, and was nearly the means of his hastening respectfully to be allowed to pass his responsibility in regard to this toast on to other shoulders. It was a Greek Sphinx, scarcely one degree less alarming than was its Egyptian ancestor. No, it was not the look of the monster that scared, for to that one was inured, indeed, as often as not, one cherished it as an ornament. It was its habits that he strenuously objected to. He derived some comfort from abiding recollections of Yorkshire hospitality, and he fain would hope that ere this stage in the proceedings some delicacy in the repast which had been enjoyed had satisfied, at least until the morrow, this monster's cannibalistic appetite. Nevertheless, thus forewarned, and in case some unsatiated Don should put to him as the proposer of this toast one of his unsolvable posers—and taught, as he was in Scotland, that another question was the safest reply to a difficult query—he forearmed himself with a question, a question akin to the riddle of existence. There existed a London debating club which had, as one of its rules, that a new member, on his first appearance and in his maiden speech, must reply to the question: "How do you justify your existence?" This was, truly, a trite question to put to the University of Leeds; but believing that, by reason of their modesty, it might put to silence those of her champions who were here as guests, the speaker was going to attempt to answer it for them.

Though not assembled at Leeds, the company was but a few miles away, and in that it was at a hospital connected by more than one tie with the University—not the least of which was the fact that the Association's President was one of the University's professors and a senior member of her Senate—and that, besides the fact that their medical menu was enriched by more than one address by members of the University professorial staff, there were several distinguished representatives of the University present that evening, none could deny the appropriateness of the toast. Indeed, its mere proposal demanded immediate assent. And as, in common with all the members, his desire was to pay the University the greatest compliment in his power, his right course, he believed, would have been to add no words to his mention of the toast, other than to request the company to be upstanding and drink it. Fear that he might be misunderstood or might have it attributed to ignorance—both of which, expressed psychologically, were elements of vanity—impelled him, however briefly, to say something more.

What was this University of Leeds, and for what did she stand? So far as the facts were known to him, the University was the lineal descendant of the Yorkshire College, Leeds, which, after seventeen years incorporation in the Victoria University (whose seat was at Manchester), in 1904, upon the separation of the latter into four independent universities, was re-born and emerged as the University of Leeds. Thus her University status had existed almost a quarter of a century; a brief span, it was true, compared with the centuries which clustered round many other similar seats of learning. But behind her were the high traditions of the many years' old college out of which she grew. And the leaven of lofty tradition—if dynamic and not stagnant—was potent. Still more to the point was the fact that she could claim, with justifiable pride, to be judged not by her age, but by what, in that quarter-century, she had achieved.

And what had she done? He asked those present to reflect on where her seat was pitched; in a huge hive of commercial industry, whose mighty business concerns not only made Leeds the sixth largest of our cities and towns outside the Metropolis, but were of vital interest to the Empire. With personal recollections of the pleasures and advantages of quietude and freedom from bustle one might well imagine that in advising a generous Crœsus, mindful to found a University in the largest of our counties, Academus would have selected a centre like York, for instance, with colleges equipped for special branches of study and research in the other chief centres of the county. However commendable such a scheme might appear, the University of Leeds had demonstrated that, nevertheless, this was not the only road to success. She had met her destiny with the psychology of a true "extrovert." With outstretched hands and arms, with comprehensive purpose, and taking the "long view," she had made to the leaders and captains of industry by whom she was surrounded and to the thousands of young men and young women working under them, a gesture of significant and far-reaching magnitude. A university training, by its standards and methods, taught how to think and to study correctly, and by a successful pursuit of one of its carefully planned

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honour schools there resulted a chiselled mind whose sharp edge could cut through the toughest difficulty, providing its possessor with mental stilts which at least trebled the ordinary three-foot step. It was only the comparatively few who could afford to provide themselves with this weapon before commencing to train in the work which was to be their means of livelihood. Accordingly, the University of Leeds envisaged, and—with the aid of the response made by those leaders of industry—had eloquently shown, that the scientific study of the principles underlying the facts which had to be learned in the various branches of commerce, could be so arranged as to form a truly liberal education, one thoroughly worthy of university status and of the imprimatur of her degrees. Hence, her Faculty of Technology—which, so far as the speaker was aware, was the only such faculty in any British University. The Professor, who so ably presided over this Faculty, would not object to his, Dr. Bond's, recalling the scholarships founded in 1868 by Sir Joseph Whitworth to promote scientific study by the workers themselves of the principles on which the practice of their trades and handicrafts were founded. But the Faculty's immediate parent was the already mentioned Yorkshire College of Science, which, from a commencement with mathematics and the physical sciences in 1871, had been gradually added to, and included a long series of technological departments, one of the largest and most important of which was now agriculture. He was sure a smile would greet the statement.

Despite the fame of her Festival and Choir, and despite her proximity to the See of an Archbishop, Leeds, apparently, offered no degree in Music or Divinity; but, besides granting degrees in Laws, the University recognized, as well as Technology, three other Faculties: Arts, Science and Medicine. Time did not permit him to do justice to their work, though each was closely connected with the Association's particular branch. Thus, Arts embraced education—that door to heightened happiness—which department, under Prof. John Strong, whose work in Scotland as well as in Leeds was so well known, included psychology, taught by Dr. Wynn Jones, and he trusted both those gentlemen knew by now how greatly their presence was appreciated that evening. Science—the antidote to superstition, but none true without religion—could be claimed to be represented to-night by Prof. McSwiney, whose subject, physiology, was a firm anchorage from which one would not willingly shift one's moorings.

And, lastly, came Medicine, the faculty to which, at their respective medical schools, members owed the passport to their profession, and which here began in 1831 as the Leeds School of Medicine, since merged in the University. Perchance three years hence, it, too, would celebrate its centenary as the School of Medicine of the sister University at Sheffield was doing that very evening, at certain of whose functions some had been present to-day and had tendered the Association's congratulations. At the entrance of Temples of Medicine were, invariably, two great pillars, representing the Chairs of Medicine and Surgery. Of the strength and lustre of those pillars here none could doubt when the names of Prof. Maxwell Telling and Prof. J. F. Dobson were mentioned.

There were two noteworthy innovations in connection with the Faculty of Medicine which he (Dr. Bond) would not omit. One was the University's creation, in 1911—for the first time in this country—of a Diploma in Psychological Medicine. The success that had attained was largely due to the efforts of Prof. Shaw Bolton. As to the severity of its standard, and of the University's examinations in general, the speaker knew something as one of her extramural examiners. The other innovation was the University's Diploma in Nursing, which was created in 1920, again the first of its kind. It was his knowledge of it which led him to venture to suggest to the University of London the establishment of the one now in operation there, among the special subjects of which was that of mental nursing.

Over those four component Faculties the University exercised a *potestas* that *intra muros et extra* was as strong as it was benevolent and wise, and instilled an academic spirit which quickened no less than it constrained. The active and visible head of this great partnership, to which the public had so liberally and wisely been admitted a partner, was the Vice-Chancellor, Dr. J. B. Baillie, whose eminence and renown as a teacher and exponent of Philosophy were as well known as was his patriotic work as an arbitrator, conciliator and guide in industrial and commercial spheres. In him and in the high position he held Philosophy most truly had come into its own. Nor would it be forgotten that under

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his ægis nearly the whole of £500,000, including a single princely donation of one-fifth of that sum, had been raised wherewith to provide the University with a setting and other needs worthy of her aims. It was with especial delight that one could say "Hic est!", and the company wished him to know that his presence was regarded here both as an honour and as a mark of real encouragement and stimulus to the work of the Association.

He asked the company to drink to the health and prosperity of the University of Leeds, and her 4,700 graduates, also her undergraduates, and with the toast he coupled the name of Vice-Chancellor Baillie. (Applause.)

The toast was pledged with enthusiasm.

THE VICE-CHANCELLOR OF THE UNIVERSITY OF LEEDS (Dr. J. B. BAILLIE, *O.B.E.*), in responding to the toast, said he wished to thank the proposer of it for the extremely generous terms in which he placed before the company the merits of the University of Leeds. If on some future occasion during his wanderings up and down the country Dr. Bond was able to pay a visit to the University, he, the speaker, thought he could improve the accuracy of his knowledge. On behalf of his colleagues he wished to say they particularly appreciated the generous way in which the toast was received. He would refer specially to his colleague, Dr. Reill, who had gone through such an arduous and strenuous time in the last few months. It was delightful to find the University appreciated by those who understood it. In the University they had their troubles, as in other universities, troubles which, now and again, would develop into anxieties if allowed to. But they never allowed themselves to fall back upon the resources of the American business man who, when he was in difficulties, proposed the following remedy. Someone asked about his business, and he said it was in a very bad way, so low, indeed, that he would require a step-ladder to look a snail in the face. "But," he said, "I am not going to worry; I have a device which will secure me from worry. I am going to appoint an officer in my department whose business it will be to take over all the worry." "Oh," said the man, "What do you propose to pay him?" "Five thousand dollars a year." "But I thought you said you were in very low water; where are you going to raise the money to pay him?" "Oh, that will be his first worry!" (Laughter.) The University did not go into methods of that kind, but tackled their difficulties as they encountered them. Very little assistance was derived from critics from the outside. He was going to refer to one critic, but he gathered from a letter in the *Yorkshire Post* that the writer did not mean what he wrote. He, the speaker, did not know what particular universities the writer of that letter had in mind; he was acquainted with two, without any direct knowledge of the inner management or organization of universities at all. But, as far as Leeds University was concerned, there were only two statements of his which could approach accuracy; one was, that the University was very badly in need of funds, and the other was what he was sure the staff would agree with, namely, that the staff was much underpaid. Not one of the other statements truthfully applied to Leeds University. That was all he intended to say on that matter. The University was, by its developments, making extraordinarily rapid progress. The proposer of the toast spoke of the Faculty of Technology being a most distinctive faculty; there were four, and not least among them was that of Medicine, and they were very proud of its history and its work, and all possible was being done to encourage it. A building was in process of construction, which was the second in the last three years. One was for the School of Dentistry, and the other would house, for the first time, departments which for years had been without any accommodation whatsoever. After that, the University authorities had in view, if they could get the money—and he did not doubt that they would—the raising of a third building, for pathology alone.

Within the short time that he had been connected with the University there had been four or five new Chairs instituted, and the spirit of research was now humming within the University in a most remarkable manner, encouraged by the younger men and by additions to the staff and resources and equipment of the University.

They were very proud of the distinguished President of this Association, one of the most remarkable men on the staff, greatly honoured by the staff, not only because of the work he had done for the University, but particularly that in his own sphere which he adorned. Leeds was the first University to institute the

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Diploma in Psychological Medicine in this country, but they felt that this particular department required most substantial assistance, and when funds were available he could assure Prof. Bolton that that assistance would be forthcoming. He looked forward to the time when there would be a Chair in Leeds University corresponding to physiology in relation to pathology. There was a Chair in Mental Diseases, and he looked forward to a time when students would pass through a course in general psychology. It was extraordinary that students should be required to take a course in mental pathology and mental disease without studying the physiology of the normal mind. The Association's subject was increasingly important, but was still largely under the prejudices and pre-suppositions of the uncritical attitude of earlier years in this enormous branch of medicine. Those who had watched the development of the public mind recognized that psychological medicine was playing an increasing part in determining legal questions. Legal questions were especially associated with the problem of responsibility, therefore he trusted that in time to come medical students would take not merely a course in psychology, but questions of moral and legal responsibility in relation to physiology and disease. He was very grateful for all that had been said concerning the University.

"The Guests."

Dr. Nathan Raw, *C.M.G.*, in submitting this toast, said he thought that the most important toast of the evening had been entrusted to him. On behalf of the Royal Medico-Psychological Association he had to offer a very hearty welcome to all those guests who had honoured the Association with their presence, and as they included many ladies, they were proud to have them in the gathering. He would add his felicitations to the distinguished President for the excellent address he gave that afternoon, describing this wonderful institution during the last hundred years. And he was sure all the company would like to add to their thanks gratitude to Mrs. Shaw Bolton—(Applause)—for the wonderful amount of trouble she had taken in making all so comfortable. This was a very historic, indeed an unique meeting. He had himself been attending these meetings for forty years, and he had never attended one in which there had been such a friendly attitude as was evident at this Wakefield meeting.

It was very difficult for him, at this late hour, to say all the nice things he would like to say about the guests, and he would therefore content himself by remarking that the Association offered them a most cordial welcome, and thanked them all for so kindly honouring it with their presence.

He could not very well conclude, in this great mental institution, without referring to one great man, among the many great men who had presided over this hospital, and that was his dear friend Sir James Crichton-Browne. It was almost impossible for the speaker to believe that Sir James was appointed Director of this great hospital before he, Dr. Raw, was born, and yet the fact remained, and he was still hale and hearty, and as alert as ever. He regarded Sir James as one of the most wonderful men he had ever met in his life. It was a happiness to feel that Sir James at one time controlled this important hospital, and he would like this assembly to send him their best regards and kind thoughts, also expressing regret that he could not be present to-night. He gave the toast of "The Guests," coupled with the name of the hospital Chaplain, the Rev. H. A. K. Schwabe. (Applause.)

The toast was duly honoured.

The Rev. H. K. A. Schwabe, in response, said he confessed that he stood up to respond to such a toast as had been so kindly spoken to with feelings somewhat akin to those of a little child about whom he had heard a story. The child was crying outside one of the large municipal schools, and a kind and compassionate lady who was passing took the child by the hand and, saying "You are going to school I suppose?" led the child to the portal inscribed "Boys." But the child cried louder and said "I'm not a boy." So the lady took the child to the entrance marked "Girls," and heard the child protest "I'm not a girl." "Well, what are you then?" queried the lady. "Please, I'm a mixed infant," was the reply. With similar mixed feelings the speaker was undertaking to reply to this toast to-night; he was not a member of this learned society, he was not, for present purposes, speaking as a member of the Church and the Priesthood to which he belonged. He was speaking for the mixed mass of people congregated under

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the term " guests," ladies and gentlemen who were fighting each along his and her lines of thought with practically the same object and the same goal as this glorious Association was aiming at.

He did not want to talk history, as the company had been treated to some history, but he must think back to what one read of affairs in the eighteenth and nineteenth centuries, when men and women who were striving, in their own way, towards the goal of truth and uplift of mankind did not travel along a road which was parallel with that now pursued ; it was a time when the scientist was persecuted and the prophet was discredited, and they often failed to see each other's viewpoint, and their lines of progress diverged instead of, as at present, travelling along parallel lines to the ultimate goal ; the alleviation of suffering and the betterment of mankind. He would not permit himself the Irishism of saying he hoped that one day these parallel lines would meet, but he thought the youngest of the present gathering would live to see that happy day when the efforts for the progress of mankind would not diverge, nor even run parallel, but would converge, and when those put forth would result in the world's being a better place for the fact of our having lived in it.

He expressed, on behalf of the guests, thanks for the proposer's kindly expressed wishes, and to the Association for having so kindly invited the guests to be present on this auspicious occasion.

The Royal Medico-Psychological Association."

Prof. John Strong, *C.B.E.*, submitted the toast of the Association. He said that at this late hour he had no intention of inflicting a speech upon the assembled company, but he would like to say that he felt it a very great honour when he was invited and given this very important toast to propose. If time had permitted, he would have liked to say lot of nice things about them.

He entertained a very great admiration for the Association and for the work it had done. He would mention, without any attempts at amplification, three reasons for this. From the year 1841, when it was founded, the Association had consistently stood for the noblest ideals in the treatment of mental diseases. Secondly it had persistently advocated the view that insanity was a mental disease, and therefore must be treated as a disease. That recognition in itself brought about a revolution in methods of the treatment of the insane. The third reason he would have liked to have entered upon at length, namely, the way the Association had insisted, especially during the last forty years, on the training and the certification of the mental nurse. That he considered was a very great thing. Those three reasons were enough to justify his admiration of the Association, and they sufficed to explain why it was that the Association held an unique position in the country, and why the medical profession looked upon the Association as the really representative body connected with psychiatry in this country. And there was another reason, which he would also have liked to give at length, but he would be content with a simple reference to it. He admired the Association for the good sense it had shown in electing as its President such a brilliant scholar, such an able administrator as Prof. Shaw Bolton. (Applause.) He associated himself with all the speakers who had referred to Prof. Bolton, especially with the remarks of the Vice-Chancellor of the University. Those in the University thought a great deal of the important work which Prof. Shaw Bolton was doing at Wakefield, and for the part he had taken in the establishment of the Diploma of Psychological Medicine. Therefore he and those with him were very proud to be associated in this way with the President, and he asked an enthusiastic pledging of the toast, coupled with the name of Prof. Shaw Bolton. (Applause.)

The toast was heartily given.

The President, in responding, said the company had listened to some extremely kind remarks about the Association and about himself from Prof. Strong, and both the Association and himself were quite prepared to accept them as true, and offered their thanks for them. He could dilate on a different aspect. All did not think of psychiatrists as Prof. Strong did. One reply to an invitation to be present to-night, was " How positively thrilling ! Do you really mean to say that we are being invited to meet and to dine with all the psycho-lunies ? " (Loud laughter.)

The dinner then came to a conclusion with the usual ceremonies.

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MORNING SESSION.—THURSDAY, JULY 12.

In the Lecture Hall of the Hospital.

The PRESIDENT in the Chair.

17. PAPER.—"**A Description of the Steps taken in a Mental Hospital to Prevent the Spread of Dysentery and Allied Infectious Diseases,**" by M. J. MCGRATH, M.B., B.Ch., D.P.M. (*vide* p. 720).

(Preceding the reading of this paper, the President read to the meeting that portion of his Presidential Address dealing with this subject which was omitted on the previous day.

18. PAPER AND DEMONSTRATION.—"**The Bacteriological Examination of Fæces for the Isolation and Identification of the Dysentery and Typhoid Group of Organisms,**" by Mr. A. L. HOWDEN (*vide* p. 727).

Dr. J. R. LORD said he did not propose to waste the time of the meeting by talking of something about which he knew little. It had not been within his province, for many years, to engage in this most interesting side of psychiatry. He would like, however, to offer a hearty welcome to a member of a profession which was growing in importance and becoming absolutely essential in mental hospitals. He alluded to that of the trained lay laboratory assistant. He believed this to be the first time one such had read a paper and given a demonstration before the Association. Mr. Howden had acquitted himself ably and had put at their disposal most useful information, and a word of thanks and congratulation was due to him. The Association ought to encourage in every way the Society, which was now providing courses of training, examinations and certificates of proficiency in the various branches of pathological laboratory work, entitling the holders to a professional status.

The only other point he wished to stress was the wonderful illustration, given in Prof. Shaw Bolton's address, of the importance of the historical approach to all research work. This enabled one to know exactly what had been done before and to derive benefit from it, and to avoid useless repetition. It indicated the most profitable direction along which to proceed, and, *inter alia*, enabled credit to be given for work which had not received that recognition due to it at the time it was done. It was for that reason the Research and Clinical Committee was anxious to establish a really good index of past and current literature, for the information and guidance of all research workers. He hoped this would materialize very soon, but there were many difficulties in the way, chiefly financial.

Dr. F. A. PICKWORTH agreed that these papers were excellent. Similar procedures to those described had been adopted at Birmingham in connection with a small typhoid epidemic which occurred there. Its possible seriousness was shown by the occurrence of a fatal case in the female nursing staff. In addition to isolating those who had had any contact with a typhoid patient, all patients were isolated who showed a positive Widal reaction, or who had abnormal organisms in the fæces. This was based on the assumption that organisms in vaccinated subjects might be atypical as Meyer and Neilson had shown from a cultural standpoint. The measures adopted restricted the epidemic.

With regard to the serological agglutination, he thought that if the titre of the pathological organism did not vary there was no indication for the permanent isolation of the case.

Dr. F. R. P. TAYLOR said he had listened with great pleasure to the papers read that morning. The methods used at Wakefield seemed to be similar to those adopted at Hellingly. The President, who was formerly at Hellingly, would remember that there were many cases of dysentery there in his time, the source of infection being traced to cases transferred from other mental hospitals. It went on for a long time, and there were then a large number of cases under treatment. Isolation was practised without material effect until based upon bacteriological examinations. Serum was used for the acute cases, as recommended by the Board of Control. For a considerable time now the hospital had been free from dysentery. At Hellingly the patients and not the staff are tested for dysentery.

Prof. J. W. MCLEOD (Leeds University) said this was a line of work with which he had had an intimate acquaintance, not over a long period, but intensively. He had

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been pleased, even surprised, at the thoroughness with which the work had been done at Wakefield. He would like to have information on a point or two, and to make some suggestions.

It was curious that no Shiga infection appeared. Small Shiga epidemics had been reported in this country, and he had wondered why they never broke out in mental hospitals.

He noticed that Mr. Howden said he picked off his colonies and transferred them to sugars at once. The speaker did not know what number of cases Mr. Howden had to deal with each day, but granted he could pick up sufficient colonies, it might be a most thorough method. But if one was dealing with anything from 30 to 100 cases a day, the amount of work could be diminished without decreasing its efficiency by making a rough agglutination of a large number of likely colonies on plates, and picking out for further investigation only such as gave this preliminary agglutination. That was the method he had always adopted. When there were many to do, it enabled him to cut down the time occupied considerably without interfering with the accuracy of the results.

He also wished to ask a question as to the correspondence of the different serological and fermentative types in the Flexner group. He had not himself investigated the sugar reactions extensively, but he derived an impression from a paper of Martin's during the war that sugar reactions were not sufficiently constant in members of the Flexner group of bacilli to justify going far beyond the cardinal differentiation between Flexner on the one hand and Shiga on the other.

Dr. E. N. BRUSH remarked that he could not forbear saying a word or two on the point made by Col. Lord, namely, the compilation of an index of psychiatric literature. He had had occasion, during the last thirty years, to suggest to workers that perhaps the discoveries they thought they had themselves made were really made years ago, and that if they searched the literature in certain indicated directions they would find that they had been anticipated. But if there was for England and America a common index of the work which had been done previously, it would prevent in many instances work being repeated. Americans and Britons spoke a common language—at least they read a common language. (Laughter.) He had sometimes doubted whether both countries did speak the same language since he saw a sign in Paris, " English and American spoken here " ! (Laughter.) In America there was available a magnificent index, that of the Surgeon-General's Library, which was of great value to workers in his own country. It now covered some forty or fifty volumes and was cross-referenced. It would be a tremendous task to carry out Dr. Lord's suggestion, but he hoped it would be done.

Dr. C. HUBERT BOND said he feared he could not contribute much either by way of criticism or addition, but he would like to say a word before the discussion was closed, and for more than one reason.

Looking back to thirty-four years ago, he had a somewhat similar, though smaller, personal experience to that discovered by the President from the history of Wakefield Hospital. It was in a hospital which was said to be entirely free from dysentery. In those days the position he occupied was that known as pathologist—a euphemism, as he did not deserve the name. In the course of those duties he discovered lesions which he had not seen in his undergraduate days, and assumed that the disease was dysentery.

To come to the President's address and the brilliant papers which followed, surely, even to one who had no technical knowledge on these matters, it must bring home the absolute necessity to mental hospitals of possessing a laboratory. He said that because there were still hospitals which did not possess one. He knew the work going on in Wakefield, and the Board received the results regularly. When faced with the returns made, how could one remain without a laboratory ? Assuming all mental hospitals had a laboratory, had they all got one or more laboratory assistants, and if so, were they of the outstanding competence of Mr. Howden ? Could one say what would be the end of the task here set out upon ? The task of the mental hospital laboratory was to see that people did not come into the midst of infection, hence much of the time must be taken up in cleansing and keeping them clean. Could anyone prophesy how much of the time of the laboratory staff would be taken up with all this ? The thing of real importance was the investigation of matters psychiatrical and neurological.

His next point was, had members anything to suggest to a mental hospital as fully equipped as was Wakefield ? What should they do ? Going round to

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the different institutions, he was faced with figures relating to dysentery and diarrhœa, and he had dared to make the suggestion, "Why not get a laboratory assistant?" Better still, could not medical officers be allowed leave to come for study to the West Riding Hospital, feeling that the cold shoulder would not be turned to them; indeed he felt that they would be welcomed there. Then men would know, first-hand, the right thing to do.

Lastly, he wished to associate himself with Dr. Lord in the remarks concerning Mr. Howden. He, Dr. Bond, knew Mr. Howden's work well, and some of those in the room had known Mr. Howden's father very well; it was from that father that the speaker learnt how to cut frozen sections. He felt sure all had learnt much by this demonstration to-day.

Dr. T. WISHART DAVIDSON asked what was Dr. McGrath's attitude in regard to patients who periodically showed the presence of organisms of the non-agglutinating group; and whether Sonne's bacillus had been found at any time.

A MEMBER asked whether it was the custom of the laboratory to give an aperient before searching for organisms in the stools.

Dr. C. W. FORSYTH said that the two papers just read were most valuable from the point of view of hospital administration. At his hospital the blood of every new patient is tested for the Wassermann reaction and for the typhoid-dysentery-food-poisoning group (Widal reaction). Blood was taken direct from one of the veins at the bend of the elbow by means of a large hypodermic needle. This procedure was easy and gave little if any pain to the patient.

The PRESIDENT said that at Wakefield they took the required blood from the arm of fifty or sixty patients in half an hour. Ordinarily only a small jab sufficed, and it was done while the people were walking out. Elaborate preparations made the subjects afraid, because they did not know what was going to be done to them.

Dr. J. IVISON RUSSELL said he felt the present was an appropriate occasion for him to give expression to his appreciation of the instruction he received when a medical officer at this hospital. He had seen being done much of the work which Dr. McGrath and Mr. Howden had described in their papers, and at the hospital to which he went he followed as closely as possible the methods he learned at Wakefield. But he was still seeking further information in regard to the isolation of the patient. To him that question bristled with difficulty. There were five different types of dysentery, and there were cases of typhoid and paratyphoid A and B. Tubercular patients also might have typhoid or dysentery infection. There was the risk that any cases might be infected. Therefore he was segregating all these cases, but in order to do it properly he felt that another county hospital was required. He had seriously thought—though he did not put it forward as a proposition now—that it might be feasible to have a mental hospital to which infected patients might go. There would then be much better segregation, with due classification.

The PRESIDENT said he would like to reply to one or two points.

At Wakefield there had been only one case of Shiga infection.

Dr. Bond had asked two questions, more or less personal to the speaker—he did not wish to reply for the readers of the papers. Dr. Bond asked what would happen after a long period of time, and if there was a prospect of increase in laboratory work. That brought out another point, on which he would like to question Dr. Bond. It was not sufficiently appreciated by people in this country that a large proportion of the dements and also 80% to 90% of the sufferers from chronic mental disease in mental hospitals were permanent residents for the rest of their lives. If this type of patient could be segregated into certain hospitals, as they were segregated in blocks at Wakefield, and if the public would appreciate that these hospitals were different from those which were treating recent cases of mental disease, an important advance would have been made. Careful laboratory work was essential in order that cases of chronic mental disease might be kept reasonably free from infection. The only way in which that could be done would be to get rid of infection in recent cases and keep them apart. In small hospitals patients could not be sent to separate isolation blocks. If Dr. Russell had an isolation hospital for recent cases found to be infected, which could be burned down in twenty years' time, he could do as he liked with the ordinary chronic lunatics—try to keep them free from infection by getting helpers to spend the necessary time over them.

Dr. Bond had asked what could be done at Wakefield to train medical officers and laboratory assistants in laboratory work. They had always been willing to do

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anything for either medical officers or laboratory assistants if they came there for reasonable periods. Those at the hospital could not be expected to teach them the whole of bacteriology, *e.g.*, in a few days, though some people seemed to think it could be done. A man could not learn the elements of bacteriology without a fairly long training; he should come when he already knew something about the subject. For half a century the committee of Wakefield Hospital had allowed clinical clerks in reasonable numbers, who received board and lodging for services rendered; no fee was charged for instruction.

Dr. McGRATH, in reply, said that he and his colleague thanked those who had spoken for their kind words.

Dr. Pickworth had asked about certain cases which did not give the typical reactions, and seemed to think they were cases which possibly had had enteric or some such infection. After the strain became attenuated they did not give the typical results. There had not been much experience of that type at Wakefield, but the speaker agreed it would be advisable to segregate such cases as potential sources of danger.

He had also been asked what should be done with non-agglutinating atypical cases. If they were non-agglutinating they should be segregated.

With regard to the cases from which the Sonne micro-organism was discovered, there had been two or three examples of this in the institution, but they had not been regarded as of any serious import.

He had also been asked whether aperients were given to patients before procuring stools for examination. Motions naturally passed were preferred.

Dr. Forsyth referred to the collection of blood for examination. In this there had seldom been difficulty or trouble, and it was rare for patients to offer any objection; the jab of the needle in the thumb was all that was needed. With an excited patient it was not so easy, nor in the case of children. In those cases it was better to collect the blood from the lobe of the ear. The amount of blood required was very small.

Dr. Russell made a suggestion as to what should be done with infected cases when there was overcrowding of isolation wards; that was a matter which would require very careful organization. The ideal was to segregate them all. Cases of simple diarrhœa, after careful examination of blood and fæces with negative results, were removed from the isolation ward.

The PRESIDENT said there was another point which might be made clear, and which appeared to have been forgotten. Prof. McLeod mentioned the question of the sugar reactions in dysentery. In this hospital great difficulty was experienced in securing trustworthy standard sugars. If they were bought from half-a-dozen chemists, there was a risk of securing abnormal results. During the war standard sugars were rare, and worth more than their weight in gold. A large proportion came from Government institutions. It was not pretended that the sugar reactions were specific, but they were a valuable guide if one kept to the same specimen of sugar.

[*Interval.*]

AFTERNOON SESSION.—THURSDAY, JULY 12.

19. PAPER.—"**An Investigation into the Significance of Perseveration**," by LL. WYNN JONES, M.A., Ph.D., Lecturer in Psychology, Leeds University (*vide* p. 653).

The PRESIDENT said this was a most interesting paper. He was surprised that Dr. Wynn Jones had found his results negative from the sensory point of view—negative meaning anything less than affirmative. But when one was dealing with subjects from several points of view, all equally true, slightly positive results were important in the balance of evidence. If one had to express an opinion in regard to cases of manic-depressive insanity, one would say that the excited case responded rapidly to a sensation. The paper showed clearly that in the cases of melancholia the difficulty was not sensory, but psychic. To anyone who thought about the matter this might appear to be true, but others would say an excited case responded rapidly to sensory stimuli.

This was a valuable contribution, and he hoped the author would continue his work on the subject.

Dr. J. R. LORD said he was interested when he heard the word "perseveration,"

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because a short time ago he had to get out some points for a lecture on epilepsy, and he found that a great authority claimed perseveration to be one of the symptoms of the peculiar mental state of epileptics between epileptic attacks. He had consulted various dictionaries to get the exact meaning of the word, and in consequence had become confused on the matter. Psychological works were contradictory on the point, so he was hoping to obtain on the present occasion a clear idea of what should be understood by the term. Some used it in the associational sense, others regarded it as signifying an obsession or psychic impulse in which a word constantly obtruded itself in consciousness, and could not be got rid of. One writer gave as an example of the latter a person who could not sleep because an idea or a word was constantly rising in consciousness and so preventing sleep. He was therefore asking for guidance on this matter of definition, as so many words were used in different senses in psychological medicine. If more exact definition could be given to such words it would certainly help psychiatric students enormously.

With regard to the remarks of the President, it was reasonable to expect that the maniacal or excited person would show a quick reaction to a sensory stimulus.

20. PAPER.—"**Physiology in Relation to Psychological Medicine,**" by B. A. McSWINEY, B.A., Sc.D., M.B., Ch.B., Professor of Physiology, Leeds University (*vide* p. 647).

Dr. H. DOVE CORMAC desired to thank Prof. McSwiney for his interesting paper, and, in doing so, to mention that a few years ago he was a student under Prof. McSwiney at Manchester, and that what he learned from that gentleman entirely changed his outlook on mental disorders and their pathology. Dr. Lord had just said that in psychology there were so many words to which different meanings were attached, and to that could be added the remark that in psychology there were so many views that it was very difficult to follow mental pathology. In physiology, however, one had something sound to go upon, and the speaker thought that in a few years it might become possible to correlate in a greater degree psychology and physiology. At the dinner the previous night a speaker said he did not think much was to be gained by studying the pathology of the mind until more was known about its physiology. He, the speaker, thought it would be extremely beneficial to the younger members if the physiology of the nervous system were very much more stressed in the course of their studies.

21. PAPER.—"**Neurotic Superstructures in Psychoses,**" by IAN D. SUTTIE, M.B., Ch.B., F.R.F.P.S.G. (*vide* p. 660).

The PRESIDENT said that all who had heard this paper by Dr. Suttie must have been impressed by his careful investigations of these two cases. It was clear that though others might not agree with Dr. Suttie's methods, all would agree with him that it was essential, whatever the method, to acquire the confidence of the patient. If that could be done, and the patient was not suffering from serious brain disease, there was the possibility that one might succeed in curing the mental disorder.

Dr. J. NOEL SERGEANT said he admired the enthusiasm and honesty of purpose of Dr. Suttie. He also admired the apparently inexhaustible patience he displayed in listening to a paranoiac. But he believed the author made one or two dangerous proposals. For instance, he said the paranoiac might be made a useful member of society. From that he, Dr. Sergeant, begged to differ. Also, Dr. Suttie elaborated the fact that whereas a psychotic was a serious menace to society, as contrasted to a nuisance, the neurotic was nothing worse than a nuisance. So that, apparently, if the nuisance could be obliterated and society could tolerate him, the idea of a menace could be discounted. An able business man might manage his business well, and amass great wealth, but owing to delusions he misused his wealth and caused enormous distress. To spend all this time and trouble in curing a neurosis and then turn the patient loose on the world as an uncured paranoiac was a very dangerous procedure.

Dr. R. D. HOTCHKIS proposed a vote of thanks to those gentleman who had read papers that afternoon. All would agree that this Annual Meeting had so far been a distinct success, and one of the reasons was that there had been such remarkably good papers from distinguished visitors who were engaged in teaching.

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Dr. LORD seconded the motion. Seldom had three methods of approach to psychiatry been so well exemplified as at this meeting. And seldom had the psychological approach been so well presented as by Dr. Suttie. The Association should be especially grateful to Dr. Suttie because he had come such a long distance for the sole purpose of reading this paper. He fully agreed with the remarks of Dr. Dove Cormac.

The thanks were accorded by acclamation.

22. LANTERN DEMONSTRATION.—"**On the Development of the Chick,**" by the PRESIDENT.

The PRESIDENT said it was not his intention to give members an address on embryology, but he would demonstrate by means of a number of slides the changes which could be observed in the egg which was undergoing development towards the formation of the chick. The prevalent idea of hatching seemed to be that the chick pecked a hole in the shell so that it could emerge into the open and breathe. That, however, was not true. During the first week the air-space rapidly increased, and that air-space remained until the twentieth day. During the first week an extraordinary change took place inside the egg; the yolk gradually increased, and became more fluid, apparently by absorbing the white, and the egg, if shaken, became what was known as a "rotten egg." He dissected 300 eggs before he obtained a perfect sequence of specimens without breaking the yolk. From the third day, blood-vessels could be seen. By the sixth day the embryo could be seen quite obviously lying in a membrane, as does a fœtus *in utero*, and right up to the time of hatching the resemblance between the chick and the mammalian embryo continued. By the twentieth day the chicken was completely developed and ready for hatching. At hatching time the chicken began to shuffle and extend itself in the shell with the result that the beak indented it, and as the shuffling continued, the chicken gradually passed round inside the shell, the beak thus making a complete circle of indentations. The top of the egg was then pushed off almost as we lift off the top of an egg before we eat it, and the chicken, by intermittent extensions of its trunk and limbs, managed to push itself through the opening, the head and neck first uncurling and escaping. Anything which caused the chicken anywhere to adhere to the membrane lying inside the shell, and which thereby checked rotation, resulted in the chick dying in shell. One of the common causes of this was outside interference, and another was any accidental position of the egg which resulted in an adhesion of the newly made opening to a neighbouring body.

[*Adjournment.*]

MORNING SESSION.—FRIDAY, JULY 13.

In the Lecture Hall of the Hospital.

The PRESIDENT in the Chair.

23. PAPER AND LANTERN DEMONSTRATION.—"**A Review of Blood-pressures in the Insane,**" by KENNETH C. L. PADDLE, *M.C.*, M.R.C.S., L.R.C.P., D.P.M. (*vide* p. 733).

Dr. DOVE CORMAC expressed his thanks for the paper. He said that Dr. Parkin, his deputy, had carried out an investigation on lines similar to Dr. Paddle's, and in the main the results agreed with those now set forth. But Dr. Parkin found that in the early stages of an attack of mania or melancholia there was a variation in blood-pressure—it was not constant. After a few weeks the blood-pressure became normal. Dr. Menzies had called attention to the blood-pressure found in the insane, and took a view opposite to that of Dr. Payne that in mania the blood-pressure was high while in melancholia it was low. Dr. Menzies said he had improved melancholia by injecting adrenalin and so raising the blood-pressure. The result, however, was only temporary, for as soon as the adrenalin was stopped there was a reversion on the part of the patient to the former melancholic state.

Dr. JOHN MILLS tendered a word of thanks and admiration to Dr. Paddle for the great amount of work he had put into his paper, which contained information of real value.

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Dr. J. R. LORD said that whenever the word "epilepsy" was mentioned it tempted him to speak. He was much interested in what had been said about blood-pressure in cases of epilepsy. In view of the psychogenic school's contention that idiopathic epilepsy was psychic in origin, it was interesting to find recorded a fall in blood-pressures in those cases. It could be reasoned that the effect of the psychic stress was to flood the abdominal vessels with blood, so producing the extraordinary blanching of the skin. He, the speaker, thought there was a hereditary factor in regard to blood-pressure. High blood-pressure seemed to run in families. He was sure that an estimation of blood-pressure should be undertaken in every mental case, especially before therapeutic measures, whether drugs or ultra-violet light. The effects of treatment on blood-pressure ought always to be carefully observed.

24. PAPER AND LANTERN PLATE DEMONSTRATION.—"**Variation in Agglutinin Formation in Mental Hospital Patients, and its Probable Relation to Focal Sepsis**," by F. A. PICKWORTH, B.Sc., M.B., B.S. (*vide* p. 709).

The PRESIDENT said this was an interesting but complicated paper. He would only ask one question about it, because it was a matter which could be discussed all day. Did Dr. Pickworth wish necessarily to associate these various types of septic infection in mental disease with the causation of mental disease, or did he regard them as possible aggravating factors, but also factors which might occur in anyone?

Dr. J. R. LORD said he was much interested in this subject, on which the *Journal* would shortly publish a monograph by several authors, including the reader of this paper. His task as editor was not difficult because the authors were unanimous in the views they held on the matter. Personally he thought there was a psychosis, in its milder form a psycho-neurosis, associated with septic poisoning. He did not doubt either that involutional breakdowns were for the most part associated with chronic intestinal toxæmia and auto-intoxication. These, however, were late expressions of septic invasion, and involved many other factors, endocrine, etc. There must, however, in all cases, be some instability of the physical basis of mind, for these toxæmias were widespread in sane people. Probably most psychoses were complicated by a toxic factor, but there was need for more definite knowledge in this respect than had hitherto been suspected.

There were many cases of mental breakdown which presented an ill-defined clinical picture not falling in even approximately with any of the syndromes with which they were all familiar. At the end of a clinical year one was often in despair as to what category many of the cases admitted during the year should be in. Among these unclassified cases there was a group presenting a similar symptomatology, the differences being due to different mental make-ups, and all associated with septic absorption. Recurrent excitement, confusion and hallucinosis were common symptoms.

However, his difficulties in regard to clinical classification were not new. He remembered reading that at a meeting of the Association's Statistical Forms Committee, a highly respected and experienced medical superintendent said that there was no justification for any classification except that into manias, melancholias and dementias, and these were admitted to be useless except for administrative purposes!

He had no doubt that researches such as they had heard about this day on the presence of infection in mental cases were of great value, and deserving of every encouragement. One result, he thought, would be the separating out from the mass of ill-defined cases which confronted them daily of another syndrome sufficiently definite to stand by itself and to indicate a special line of treatment. This was his hope and that of the authors of the coming monograph. It was not a psychological work, for it was rare to find a pathologist capable of understanding a psychic fact of any kind, and many neurologists, even of great eminence, were no better in this respect.

Dr. MARGARET GAMBLE spoke of cases which did not give a positive reaction to agglutination tests after they had had a course of T.A.B. This referred to cases of G.P.I., and to certain primary elements in a stuporose phase. Had the speaker any explanation or any similar experience of such negative findings?

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The PRESIDENT said he was particularly interested in what Dr. Lord had said, as he, the speaker, had been prepared to acknowledge that many forms of mental disorder were due, definitely and absolutely, to sepsis—fori nstance, the obscure mental states due to different kinds of sepsis of the uterus. There were, likewise, cases due to aural and nasal sepsis. In all those cases he had found one symptomatology, whatever the predominant feature might be, *i.e.*, a large element of mental confusion. Indeed, he estimated the amount of the sepsis by the degree of mental confusion. In alcoholic and hyoscine conditions there was confusion, but of a quite different nature. The reason he asked his question immediately after the paper was read was that he wished to know whether the author had associated a particular symptomatology with the toxæmias he had observed. If a case had toxæmia from the septic nasal sinuses, it might or might not—according to the severity of the toxæmia—show acute mental confusion. Whether this was so or not, obviously it was equally desirable to get rid of the focus or source of infection. If Dr. Pickworth agreed with that, the cause might be on the pathological side alone.

He much admired the mass of work which Dr. Pickworth had done.

Dr. PICKWORTH, in reply, agreed with the President that the cases which were actively septic generally showed confusion. In the sphenoidal sinus case the symptomatology was that of confusion. The relation of gastro-intestinal and focal sepsis to mental disorder was a matter of speculation, but it was conceivable that a bacteriæmia as postulated would result in damage to the organ of the mind, namely, the brain-tissue. From a pathological view-point confusion would result if there was reversible damage to the higher neurones, and dementia, if the damage were permanent. Other psychiatrical types might result if the above processes acted upon a more or less localized area of the brain-tissue, and if such processes occurred at a critical period of brain development, one would theoretically have all the conditions necessary to explain congenital mental deficiency and idiocy.

In answer to the point of there being no agglutinin formation in general paralysis after T.A.B. injection, the findings supported the theory put forward in the paper. Many people believed that there was another factor in addition to syphilis in general paralysis, and he thought that intestinal and focal sepsis also had a causal relation to general paralysis.

Dr. Lord had stressed the psychical factor. It appeared that psychical or emotional disturbances acted just as mental and bodily fatigue in a manner similar to that which occurred with high temperature, namely, a central inhibition of gastric secretion, from which high intestinal sepsis and the other conditions put forward in the paper, such as mental confusion, would result.

25. PAPER AND CLINICAL DEMONSTRATION.—"**On the Relation of the Spirochæta Pallida to the Pathological Changes in Dementia Paralytica,**" by J. F. SMYTH, M.D., N.U.I., D.P.M. (*vide* p. 787).

Following the reading of the paper a number of male and female cases of general paralysis were demonstrated.

Dr. H. DOVE CORMAC said that at his hospital malarial treatment of the disease had been beneficial. It had been carried out in 29 cases, and had enabled 7 to be discharged and returned to their occupations. It had been remarked to him by medical superintendents that remissions in the disease occurred without treatment, but in his own twenty years of experience he knew of only one case in which remission occurred in the absence of treatment. The results following tryparsamide seemed to be promising, but were they justified in not treating cases by malarial infection?

The PRESIDENT said tryparsamide was not used to cure general paralysis, and the malarial treatment of that condition was not in order in this discussion.

Dr. J. R. LORD said that in the *Journal of Nervous and Mental Diseases*, March, 1928, there had appeared a very good account, by a competent pathologist, of the *post-mortem* appearances presented in cases of a good remission due to malarial treatment. An interesting point was that the vascular infiltration of the cortex had cleared up in all areas except the temporal region. That was interesting in the following respect. Bianchi, by experimenting on the brains of dogs, arrived at the conclusion that the frontal lobes were the seat of the higher psychic functions —inhibition, social sense, etc. One would think that the remission which occurred

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in general paralysis was due to the frontal lobes being cleared of infection and the sensory areas coming under control. Bianchi taught that in cases of cerebral toxæmia the brunt of the attack might fall on the sensory areas of the brain and overcome and confuse the controlling machinery of the frontal lobes. But there could be minor disturbances in the sensory regions without presenting grave symptoms, so long as the controlling frontal lobes were not put out of action. The relative amount of invasion by the *Spirochæta pallida* of the frontal and central areas of the brain would account for the various types of general paralysis and the varied results of eliminative treatment.

The PRESIDENT pointed out that a different interpretation was possible, namely, that these vascular changes had never occurred except in the temporal region. He did not think that vascular changes, once they had developed, with proliferation of the plasma-cells, could clear up; that seemed to him an impossibility. His view was that they had not been there, and that this explained the patient's recovery.

26. PAPER.—**"The Diagnosis of General Paralysis of the Insane as a Clinical and Pathological Entity,"** by JOHN BRANDER, M.D., M.R.C.P., D.P.M. (*vide* p. 673).

The PRESIDENT said that this paper by Dr. Brander had given the reason why the malaria treatment of general paralysis was not used in the Wakefield institution. In the second place, when the work of Head and Fearnsides and McIntosh was published in *Brain*, the speaker went carefully through all the cases they referred to, and found that they exhibited certain physical signs which general paralytics did not manifest, such, for instance, as a squint. Cases of that kind were largely due to basal meningitis, and were curable by ordinary anti-syphilitic measures. Cases of classical general paralysis, as generally understood, exhibited no such neurological signs; they were not curable, and they died. The first time a patient suffering from the typical classical general paralysis was acknowledged by authorities to be cured by malarial treatment would be the signal for the commencement of such treatment in his hospital.

He had a suggestion to make. It was that this paper, which, like the preceding one, was very important, should be discussed, in a way which time did not permit now, at the next quarterly meeting of the Association. Both these papers should be included.

This was agreed to.

Prof. AUGUST WIMMER desired to express his thanks for having been allowed to be present at the meeting, and he also wished to thank the authors for these excellent papers. Dr. Brander's paper interested him personally, because he had been working on the questions it raised for ten years. In 1918 he published an article on non-syphilitic mental troubles in syphilitic persons. In that article he gave an account of the clinical material which he encountered in Copenhagen. There was a record of cases which were classified by skilled observers as general paralysis, but were not that disease, who recovered, but nevertheless gave a positive syphilitic reaction in both blood and cerebro-spinal fluid. In his clinic at Copenhagen he had had experience of cases which might for some time resemble general paralysis, but were not typical. Indeed he did not think mental diseases did present pathognomonic symptoms. He still thought one should be careful about accepting the laboratory tests and the laboratory findings on which some laid stress, though those findings were of great value in diagnosis, perhaps in 98%. There were a few, however, in which the diagnosis was open to question, and he had seen some puzzling cases. Some cases were of such a nature that the laboratory findings told one no more than that there was a meningeal reaction. There might be mental troubles which were due to meningo-vasculitis. Why should it be assumed that a patient who was insane should not be able to acquire syphilis? The place of the psychiatrist was mainly that of the physician at the bedside, and in that position and function one was grateful for all the help which the laboratory could give. It must always be remembered that a diagnosis should only be attempted from a close clinical observation of the patient.

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AFTERNOON SESSION.—FRIDAY, JULY 13.

27. PAPER.—"**The Value of Psychical Research to the Physician,**" by W. H. MAXWELL TELLING, M.D., F.R.C.P., Professor of Medicine and Head of the Department of Medicine, University of Leeds (*vide* p. 634).

The PRESIDENT said that Prof. Telling had expressed to him a doubt as to whether a paper on this subject would be acceptable at that meeting, and he had told him it would be welcome as a change if nothing else. The paper raised many interesting points he did not feel competent to discuss, but he would like to hear the views of members on the subject.

Dr. YELLOWLEES thanked Prof. Telling for a most courageous and interesting paper. He had only one point to make. It was necessary to distinguish between psychological research and psychic research. Psychology dealt with observed phenomena in conformity with natural laws. Psychic research dealt with the occult, which transcended natural laws. This could not demand scientific conditions because it was unscientific. He would be the first to confess belief in these phenomena, but for the difficulty that the occult began where science ended. Once a man entered the service of science and took her as his mistress, he had got to follow where she led.

Psychic experience must be divorced from science, but it was not less interesting because of this, and he hoped it might prove to be something greater than anything science had yet led to.

Prof. TELLING said he could not understand Dr. Yellowlees' position. He, Prof. Telling, maintained that if a phenomenon occurred its study came within the province of science.

An interesting discussion followed on the point raised by Dr. Yellowlees, in which the PRESIDENT, Dr. NOEL SERGEANT, Dr. YELLOWLEES and the author of the paper took part.

Dr. C. L. PADDLE asked whether there were any records in the proceedings of the Society for Psychical Research of genuine spirit photographs.

Prof. TELLING said he did not think so, but these records were published and open to anybody's study.

Dr. LORD said that whatever difference of opinion there might be in regard to the correct relationship between psychic phenomena and science, they were all agreed that Prof. Telling had approached his subject scientifically and with an open mind, and had read a paper of very great interest, and one which would give them food for reflection. Prof. Telling could rest content that his paper had proved no disappointment to the meeting, indeed members had enjoyed it, and would always remember it as a feature of the Wakefield Annual Meeting.

The PRESIDENT concurred in what Dr. Lord had said and again thanked Prof. Telling for his very able paper.

28. PAPER.—"**Some Observations on the Certification of Mental Defectives,**" by J. E. MIDDLEMISS, F.R.F P.S.

This paper was received and ordered to be read and discussed at a subsequent meeting.

29. CLINICAL DEMONSTRATION.—"**On Cases of Sense Deprivation,**" by Prof. SHAW BOLTON (President).

The remainder of the afternoon was occupied in the demonstration by the President of a number of congenitally deaf and dumb cases and the effects such sense deprivations had on mental development. It was one of the most interesting items of the meeting.

The great mass of essentially human knowledge was normally acquired by means of the sense of hearing, through language heard and spoken. The mechanism of reading and writing was of later development and was not essential to the evolution of average human intelligence. A series of cases of congenital and acquired deafness was shown in illustration of this thesis. The series graded from individuals of anthropoidal habits and actions through individuals, possessing a considerable capability of imitation, but not necessarily any understanding of what was imitated,

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up to cases possessing really remarkable powers of visual perception and descriptive mimicry. All these cases, however, on careful examination, exhibited a grave defect in mental development. Among these cases were three brothers, the eldest being of anthropoidal type, the intermediate having considerable powers of unintelligent imitation even with a pencil, and the youngest exhibiting remarkable powers both of visual perception and of descriptive mimicry, and showing relatively little mental retardation and disability. Finally an adult man, kindly brought over from the North Riding Mental Hospital at Clifton by Dr. J. Iveson Russell, together with another patient whose chief duty was to attend to his wants, gave with the help of this interpreter a most interesting and remarkable exhibition of his knowledge of current events based on the study of the illustrated papers, this including amongst other instances the recent fall from an aeroplane of a well-known millionaire. Cases were then shown to illustrate the gradual loss of the power of articulate speech by persons long deaf. A number of cases of long-standing or congenital blindness were then shown in order to illustrate the relatively slight disability of blindness compared with congenital deafness. The ability to hear and speak, the remarkable evolution of the sense of touch and position in the blind, and finally the ability to read and write by means of Braille, place the blind in a position little inferior to the normal human being in comparison with the serious and irremediable mental disability which is due to congenital deafness. Among the cases a good example of an intelligent and educated blind man was included, and his demonstration of the employment of Braille was of extraordinary interest.

A vote of thanks to the President for his demonstration concluded the meeting.

30. Votes of Thanks for Hospitality, etc.

This item on the Agenda was taken at the luncheon before leaving the table on Thursday, July 12, as it was felt that many members might not be present for the final session.

Dr. R. Percy Smith, the senior Past-President present, called the members to order and proposed—

"That the thanks of the Association be accorded to the President and Mrs. Shaw Bolton and to the Committee of Visitors for the generous hospitality extended to members and their friends during the meeting."

He said that in moving this cordial vote of thanks he would like also to express the Association's appreciation of the delightful way in which Prof. Shaw Bolton had presided over the meetings. He, the speaker, regretted he would not be able to stay to hear the remainder of the papers, but he had had the privilege, that morning, of hearing papers on one of the most important questions connected with the health of mental hospitals. He almost felt that his breath was taken away when he realized what an amount of work was now being done in the way of blood examinations and other investigations, in comparison with the time when he was a young man at Bethlem Hospital, from 1885 onwards, the work at that date being mainly clinical. Here, at Wakefield, there were many opportunities for original work. He well remembered Prof. Bevan Lewis, who was Medical Superintendent here, being President of the Association in 1909, and the great pleasure the visit to Wakefield gave on the occasion when the Annual Meeting was held there. Some years ago he was associated with the President as one of the Examiners for the Diploma in Psychological Medicine of the University of Leeds, and since he had been down here this time it had pleased him to have men come up to him and say, "You examined me for the Diploma in Psychological Medicine"—men whom he had forgotten. Since that time, thanks to the kind hospitality of Prof. and Mrs. Shaw Bolton, he was able to look back on many delightful visits He was sure all present would agree that the special thanks of members with ladies were due to Mrs. Shaw Bolton, who, he understood, had organized excursions for lady visitors to Leeds, Menston and York.

On the previous day telegrams of affectionate remembrance to Sir James Crichton-Browne and Prof. Bevan-Lewis were sent. Sir James Crichton-Browne was now a retired Lord Chancellor's Visitor in Lunacy, and had reached the ripe age of 88. Those who met him in London would be aware how extraordinarily active he still was; he was able to run up and down stairs like a young person, and, altogether, he was in the pink of condition. Sir James's reply was read to the morning meeting. The following reply had since been received from

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Dr. Bevan-Lewis. [Reads, *vide* p. 861.] He feared that Dr. Bevan-Lewis, unlike Sir James Crichton-Browne, was in poor health, but they were both outstanding ornaments of this institution, and it was a very great pleasure to hear from them. (Applause.)

The resolution needed no seconder, and it only remained for him to put it by asking the company to drink to the health of the President and Mrs. Bolton.

The toast was drunk with enthusiasm, and three cheers were given, followed by the singing of " For he's a jolly good fellow."

Dr. E. N. BRUSH said that, speaking for himself, and he was sure he was also speaking for other foreign delegates, he wished to join most heartily in these thanks to Prof. and Mrs. Bolton for their kindness. His recollection of this Hospital extended back forty years ; he was here during Prof. Bevan-Lewis's superintendency, and he remembered the old Hospital, and a striking thing in relation to his experience here was still in his mind. He thought he slept in the largest, widest and highest bed that he had ever rested in during his life ; it was as wide as it was long. And the hospitality he enjoyed then had been repeated on the present occasion. All appreciated the instruction which the proceedings had afforded. He had watched the growth of bacteriology from its infancy. A hospital which did its work properly could not do without a bacteriological laboratory.

He and the other foreign guests extended their thanks and hoped to come again, and further hoped that Mrs. and Prof. Bolton would enjoy long life and prosperity. Of the Hospital he could only say, *Gloriat visat vivat !* (Loud applause.)

The PRESIDENT, in his reply, referred to the presence of the Lord Bishop of Wakefield, saying how pleased all were to see him. He was a very old friend of the Hospital staff, in fact he did not know how they could have got along in the church at the Hospital if it had not been for him ; he had taken the services when there was no Chaplain, and probably he had preached at the Hospital more frequently than in any of the churches of the diocese. Altogether, he had gained the affections of the whole institution.

He could say, on behalf of his wife and himself, that they much appreciated those expressions of thanks, though really they did not deserve them.

THE SOCIAL PROGRAMME.

By the kindness of the Committee of Visitors and Prof. J. Shaw Bolton, members and their ladies were invited to lunch at the Hospital on each day of the meeting.

Many members were comfortably accommodated at the Hospital for the whole period of the meeting, and very hospitably treated in every way by Prof. Shaw Bolton and his officers.

Members and their ladies were conducted in parties round various sections of the Hospital each morning before the hour of meetings and again before lunch.

There were excellent facilities for tennis.

The following excursions for ladies were arranged by Mrs. Shaw Bolton and much enjoyed.

Wednesday, July 11 : Visit to Wakefield Cathedral and Chantry, and to the Mental Hospital Church.

Thursday, July 12 : Excursion to Templenewsom and lunch by kind invitation of Dr. and Mrs. Edgerley, of Menston.

Friday, July 13 : Excursion to York and lunch by kind invitation of Dr. J. Ivison Russell, of Clifton.

The President and Mrs. Shaw Bolton were " At Home " to members and their ladies at Field Held on Wednesday, July 11, at 5 p.m.

On Thursday, July 12, at 4.30 p.m., members and their ladies enjoyed the hospitality of the Wakefield Mental Hospital Athletic Club at tea. At this function, in response to many requests, Dr. J. R. Lord addressed the members of the Club on Wakefield and all that it stood for in the estimation of the Association.

He told them how much the Association valued the privilege of holding its 87th Annual Meeting at the Hospital, and how greatly members were enjoying it and appreciating to the full the good work done there. Dr. Lord concluded by moving a vote of thanks to the Club for its hospitality that day and for the kindly welcome members had received at all hands. Dr. R. F. P. TAYLOR seconded. Dr. E. N. BRUSH spoke on behalf of the foreign delegates and other visitors.

The Chairman of the Club Committee, Mr. G. F. Wilson, replied for the Club.

On Thursday, July 12, at 6 p.m., a cinema entertainment was given in the

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Recreation Hall of the main building; members and their friends were invited and keenly enjoyed "Chang."

On Friday, July 13, at the conclusion of the meeting, members, before they separated, visited Hatfeild Hall and had tea. The handicraft work of the boys was much admired, and the beautiful old gardens, wood and ancient buildings were visited with considerable interest.

It was amid such pleasant surroundings that members made their final adieux to their kind host and hostess and took away with them unforgettable memories of a notable meeting.

IRISH DIVISION.

THE SUMMER MEETING of the Irish Division was held, by the kind invitation of Dr. Gavin, at Mullingar District Mental Hospital on Thursday, July 5, 1928.

Present, eleven members. Dr. Lawrence Gavin presided.

The minutes of the previous meeting were read, approved and signed by the Chairman.

Letters of apology for unavoidable absence were read from Dr. M. J. Nolan and others.

The reply of the Minister for Local Government, Irish Free State, to the Division's memorandum on the Report of the Commission on the Relief of the Destitute Sick and Poor, including the Insane Poor, was read. It was to the effect that the recommendations of the Division would receive consideration when the new legislation was introduced.

The following candidates were balloted for and declared unanimously elected ordinary members:

TERENCE GRACE, L.R.C.P.&S.I., Resident Medical Superintendent, District Mental Hospital, Maryborough ("Portlaoighise").

Proposed by Drs. J. O'Conor Donelan, R. R. Leeper and R. Taylor.

MICHAEL A. WALSH, L.R.C.P.&S.I., D.P.M., Assistant Medical Officer, District Mental Hospital, Maryborough ("Portlaoighise").

Proposed by Drs. R. R. Leeper, J. O'Conor Donelan and George Keene.

The meeting next approved of the Report of the Clinical Committee of the Division as follows:

"That, in view of the establishment of these meetings by the Division, four Quarterly Meetings of the Irish Division be held each year for the future. Such meetings to be called Divisional and Clinical Meetings, and held in mental hospitals, at the invitation of their respective Medical Superintendents."

The Spring Meeting, it was decided, should be devoted to the election of officers and other business matters, the first Clinical Meeting to be held in November, 1928, and the second in January, 1929.

It was resolved that a letter be sent to the General Nursing Council of the Free State conveying thanks and appreciation of its action in recognizing the Certificate of the Association as qualifying nurses for State registration.

The meeting next considered a letter from the General Secretary, Dr. Worth, notifying the Council's sanction to the proposal that, in future, the election of the Divisional Hon. Secretary and of the two Representative Members of Council be carried out by show of hands. The names of the candidates nominated by the Business Committee of the Division are to be on the Agenda, and other candidates may be proposed at the meeting itself.

A cordial vote of thanks to Dr. Gavin for his hospitality and for presiding ended the proceedings.

The Business Committee and the Clinical Committee met conjointly on June 12, 1928, at the Royal College of Physicians, Dublin. Dr. M. J. Nolan presided, and the matters dealt with are recorded above.

DIVISIONAL CLINICAL MEETINGS.

Cheddleton Mental Hospital, Leek.

A Divisional Clinical Meeting was held at the above hospital on June 21, 1928.

Present: Nine members. Dr. W. F. Menzies presided.

Dr. F. H. STEWART demonstrated twenty-six male cases of general paralysis treated by the "apyrexial" method, by which the malaria is stopped as soon as

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amœbulæ appear in the blood, whether there has been a rigor or not. He showed that results were rather more successful than by the classical method.

	Recovered.	*Improved.*	*Not improved.*	*Died.*	*Total.*
12-rigor method .	6	10	8	6	30
"Apyrexial" .	3	11	5	2	21

The above table shows fifty-one male cases treated at Cheddleton. The "apyrexial" method, applied to the later cases, only a few weeks ago, is safer, many will improve, and some recover, later on. Doubt was expressed by some members, owing to the large number of cases at Cheddleton with a low admission-rate of only about 150 males per annum, as to whether the cases were all general paralytics. Dr. Stewart explained that all had a positive cerebro-spinal fluid, with large increase in cells; one only had a negative blood Wassermann, two had no clinical signs, viz., one man and one little boy.

Dr. EILEEN CHENNELL brought forward two cases for diagnosis. The first was one of a Huntington's chorea, whose mother had recently died here with similar clinical signs, and the brain and liver contained multiple areas of infiltrating hæmorrhages. The general opinion was that these hæmorrhages were rare, and threw no light on the pathology of hereditary chorea, which, in spite of the enormous amount of literature on the subject, was still quite uncertain. The other case was a blind woman, æt. 33, sent in recently for hysterical fugues during the past ten years, but more severe recently. At 17 she began to go blind, and when the optic atrophy was nearly complete, consulted an oculist and had decompression for supposed inoperable brain-tumour. Instead of dying she gradually recovered from the upper neurone paralysis. Mother had four healthy children, no miscarriages. On admission to Cheddleton the patient's blood Wassermann was positive, and the case was clearly one of old gumma, now absorbed, which had not been recognized or treated at the time.

Dr. W. D. WILKINS demonstrated orthopædic cases of children who had been taught to walk after Mr. Mitchell Smith had corrected the deformities. The Orthopædic Sister illustrated the application of plaster cases, irons, etc., and the further stages of electrotherapy and actinotherapy were shown. Afterwards the members watched marches and country dances, and heard the toy band, all performed by children who were post-encephalitic or low-grade imbeciles formerly wet and dirty.

EDUCATIONAL NOTES.

The Maudsley Hospital, Denmark Hill, S.E. 5 (*University of London*).—Lectures and Practical Courses of Instruction for a Diploma in Psychological Medicine, Course XII, 1929.

Part I (January and February), commencing on January 8, 1929.

(1) Twelve lectures on the Physiology of the Nervous System. By F. Golla, F.R.C.P.

Four lectures and demonstrations on Physiological Psychology. By F. Golla, F.R.C.P.

Four lectures and demonstrations on the Bio-Chemical Aspects of Mental Disorders and Laboratory Methods. By S. A. Mann, B.Sc.Lond., F.I.C.

(2) Twelve lectures on the Anatomy of the Nervous System. By G. Elliot Smith, Litt.D., D.Sc., M.D., F.R.C.P., M.A., F.R.S.

Practical Instruction and Demonstrations. Demonstrator, Charles Geary.

(3) Eight lectures on Psychology. By Henry Devine, M.D., F.R.C.P. Followed by Course of Practical Instruction.

Part II (March to May inclusive).

Eight lectures on the Psychoneuroses. By Bernard Hart, M.D., F.R.C.P.

Twelve lectures on Morbid Psychology. By Edward Mapother, M.D., F.R.C.P., F.R.C.S.

Four lectures on the Pathology of Mental Diseases. By F. Golla, F.R.C.P. Followed by Four Demonstrations in Pathological Anatomy. By Charles Geary.

Four lectures on the Legal Relationships of Insanity and Treatment. By C. Hubert Bond, D.Sc., M.D., F.R.C.P.

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Six lectures on the Practical Aspect of Mental Deficiency. By F. C. Shrubsall, M.D., F.R.C.P.

Six lectures on Crime and Insanity. By W. Norwood East, M.D., M.R.C.P.

Three lectures on Therapeutics. By A. A. W. Petrie, M.D., F.R.C.S., M.R.C.P., D.P.M.

Six demonstrations in Clinical Psychiatry. By Edward Mapother, M.D., F.R.C.P., F.R.C.S.

Twelve clinical demonstrations in Neurology. By F. Golla, F.R.C.P., and F. M. R. Walshe, D.Sc., M.D., F.R.C.P.

Two lectures on Abnormalities of the Fundus Oculi. By R. Foster Moore, M.A., B.Ch., F.R.C.S.

Two demonstrations in Laboratory Methods, including the Examination of the Blood and Cerebro-spinal Fluid. By S. A. Mann, B.Sc.Lond., F.I.C.

Posts as voluntary clinical assistants at the Maudsley Hospital may be granted without fee to practitioners of both sexes specializing in Psychological Medicine. These appointments can be either for whole or part-time work in wards, out-patient department or laboratories as desired. They can be held in conjunction with attendance at either part of the course for the Diploma in Psychological Medicine. Such an appointment will satisfy the requirements of the various examining bodies in respect of clinical experience of mental disorders for the Diploma in Psychological Medicine or for the M.D. in Psychological Medicine; its necessary duration depends on whether it is whole or part time. There are various other opportunities for clinical study, also without fee, to all attending the course. Applications and inquiries regarding these clinical facilities should be made to the Medical Superintendent of the Hospital.

Fees: For the whole course of Parts I and II, £15 15s.; for Part I separately, £10 10s.; for Part II separately, £10 10s.; for one single series of lectures in Part I, £4 4s.; for one single series of lectures in Part II, £2 2s.; for one single series of demonstrations only, £1 1s.

Inquiries as to Lectures, etc., should be addressed to "The Director of the Central Pathological Laboratory," Maudsley Hospital, Denmark Hill, S.E. 5. Applications for admission to the course should be made on the accompanying form, which must be filled up and forwarded with remittance as directed. The Fellowship of Medicine, 1, Wimpole Street, W., will collect fees from, and issue admission tickets to, medical men and women intending to take the course who are introduced by the Fellowship.

STUDY TOUR AND POST-GRADUATE EDUCATIONAL INFORMATION SUB-COMMITTEE.

Memorandum on the Diplomas in Psychological Medicine.

Information on this subject was published in the *Journal of Mental Science*, January, 1920, in an addendum to an article by Dr. C. Hubert Bond on "The Need for Schools of Psychiatry." One of the five universities he mentioned has ceased to confer a diploma and four other examining bodies have each instituted a new examination. Several changes have been made in the regulations by the other universities, and it is considered desirable to furnish members of the Association with particulars of the revised and new regulations.

The examining bodies conferring the Diploma were asked for copies of their regulations and for particulars of prizes or exhibitions offered in psychiatry. From the information thus kindly furnished the following particulars have been tabulated for a comparative survey, but candidates are advised to consult the detailed regulations of the selected examination before proceeding far on their special course.

NOTES.

The Regulations of some of the Universities and Colleges give details of the examination syllabus, while others give only the particulars noted in the following table.

Attendance at Special Courses is not obligatory for the Examinations held by the University of London, the National University of Ireland and the Royal Colleges of Physicians and Surgeons in England and in Ireland.

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University, etc.	Title of diploma.	Medical standing of candidates.	Duration of course, attendance at the University and instruction fees.	Subjects of examination.	Examination entrance fees.	Information from—
University of Durham.	D.Psy.	Registered medical practitioner.	A detailed course as prescribed at the University of at least 6 months. Composition fee £35. Candidates who qualified before Jan. 1, 1911, are eligible for examination without attendance at this course.	Part I: Anatomy, Physiology, Pathology and Bacteriology. Part II: Psychology, Experimental Psychology, Neurology, Psychiatry, systematic and clinical. The whole examination may be taken at one time or either part separately.	10 guineas and 3 guineas for diploma.	The Dean, College of Medicine, Newcastle-on-Tyne.
University of Edinburgh.	Dipl. Psych.	Must hold registrable degrees or diplomas prior to commencing the special course, *and* must have held for 1 year a resident appointment in a hospital for mental disorders approved by the Faculty, *or* 6 months' appointment plus 6 months' practical study of nervous diseases in an approved hospital.	Courses are prescribed in seven subjects; three of which must be attended at the University; two terms. Fees about 18 guineas.	Part I: Anatomy and Physiology of Nervous System; Psychology and Experimental Psychology. Part II: Neuro-pathology; Clinical Psychiatry; Clinical Neurology. An additional subject applying to mental diseases from this group: Mental Deficiency, Bacteriology, Psychopathology and Psychotherapy, Diet, Preventive Medicine, Jurisprudence.	6 guineas.	Dean of the Faculty of Medicine, University New Buildings, Edinburgh.

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University, etc.	Title of diploma.	Medical standing of candidates.	Duration of course, attendance at the University and instruction fees.	Subjects of examination.	Examination entrance fees.	Information from—
National University of Ireland.	Dipl. in Ment. Dis.	Graduates in Medicine only.	Post-graduate course of instruction in mental diseases during 6 months, *or* residence as an assistant medical officer.	1. Diseases of Brain and Spinal Cord. 2. Mental Diseases. 3. Anatomy and Physiology of Brain and Spinal Cord. 4. Pathology of Brain and Spinal Cord.	£2 10s. for exam. and £3 on admission to Diploma.	Registrar, National University of Ireland, 29, Merrion Square, Dublin.
University of Leeds.	D.P.M.	Graduate in medicine of at least one year's standing.	A 6 months' course in the subjects of the examination in the recognized laboratories of this University, and clinical assistant or resident in recognized asylum 6 months. Fees about 18 guineas.	Part I : (i) Development, Anatomy and Histology (human and comparative) of the Nervous System. (ii) Physiology of the Nervous System and Organs of Special Sense. (iii) General Psychology. Part II : (iv) Pathology of Nervous System. Part III : (v) Clinical Psychiatry. (vi) Experimental and Morbid Psychology. (vii) *a*. Clinical Neurology. *b*. Mental Hospital Administration. *c*. Medico-legal Aspects of Insanity.	6 guineas.	Dean of the Faculty of Medicine, School of Medicine, Leeds

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University, etc.	Title of diploma.	Medical standing of candidates.	Duration of course, attendance at the University and instruction fees.	Subjects of examination.	Examination entrance fees.	Information from—
University of London.	D.P.M.	Name must be on Medical Register.	Previous to Part "B" of examination 6 months' whole time or resident appointment or 12 months' attendance in recognized Institutions (Co. or C.B. Mental Hospitals, 200 beds, in England or Wales, etc.) (Maudsley Hospital or Bethlem Royal Hospital fee for entire course is 15 guineas).	"A" in March and October: (i) Anatomy, Histology and Physiology of the Nervous System. (ii) Psychology. "B" in April and November. (i) Neurology. (ii) Psychological Medicine, two papers, the second of which is of an advanced kind in either Mental Diseases or Mental Deficiency.	12 guineas.	I. Lea, M.A., University Extension Registrar, University of London, S. Kensington, London, S.W. 7.
University of Manchester.	D.P.M.	Registrable qualification 1 year.	Three University terms, two of which must be taken at this University. Third term here or at an approved institution. Composition fee exclusive of mental hospital instruction is 25 guineas.	Part I: March; Written and Practical. (i) Development and Anatomy (human and comparative) of Nervous System, Physiology and Bio-chemistry. (ii) Psychology, theoretical and experimental. Part II: July. (i) Pathology of Nervous System (written and practical). (ii) Psychological Medicine (written, clinical and oral). (iii) Clinical Neurology (clinical and oral).	16 guineas.	Dean of Medical School, The University, Manchester.

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University, etc.	Title of diploma.	Medical standing of candidates.	Duration of course, attendance at the University and instruction fees.	Subjects of examination.	Examination entrance fees.	Information from—
Royal Colleges of Physicians and Surgeons, Conjoint Board, England.	D.P.M.	Any Registered Practitioner for Part I. For Part II he must have passed Part 1 and completed a year of special study of psychological medicine after obtaining a registrable qualification.	One year of special study (*a*) Attendance 2 months in Nervous Diseases. (*b*) Resident or whole-time appointment in institution for mental diseases where recognized clinical instruction is given, 6 months; *or* attendance for clinical instruction in psychological medicine at recognized institution 12 months. Modification of the course may be accepted for original investigation and publications or for prolonged studies.	Both Parts in June and December. Part I: (i) Anatomy and Physiology of Nervous System. (ii) Psychology. Part II: (i) Neurology (clinical and pathological). (ii) Psychiatry and its Legal Relationships.	12 guineas.	The Secretary, Examination Hall, 8–11, Queen Square, Bloomsbury, London, W.C. 1.
Royal Colleges of Physicians and Surgeons, Conjoint Board, Ireland.	D.P.M.	As for R.C.P.&S. England.	Attendance at a recognized mental hospital of at least 40 beds as a Resident Officer 6 months', or attendance 3 days a week for 9 months. Certain exemptions as above are accepted.	As for R.C.P.&S. England.	12 guineas.	Secretary of the Committee of Management, Royal College of Surgeons, St. Stephen's Green, Dublin.

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University of Edinburgh.—Attention is drawn to the necessity before commencing the special course of having held a resident appointment in an approved hospital for mental disorders for one year or, alternatively, for six months together with a similar period of practical study of nervous diseases in a hospital approved by the Faculty of Medicine.

In the case of a candidate who has held a mental hospital appointment for 5 years, exemption from the course in one or more subjects may be granted, but not from any part of the examination.

Candidates for examination must be matriculated for the year.

University of Leeds.—In addition to or in lieu of 3 months of the course in anatomy and histology, the candidate may submit a dissertation embodying the results of personal observation or original research in relation to psychological medicine.

Candidates may present themselves for the three parts of the examination separately or at the same time, provided that Part I is passed before Part II and Parts I and II before Part III.

University of London.—While the examination includes mental deficiency as well as mental disease, the candidate must sit for an advanced paper in one of these two subjects. If he so desires he may sit for the other special qualification at a subsequent examination, the additional fee being 6 guineas.

The University issues a detailed syllabus, in which some prominence is given to endocrinology and dietetics.

Books of questions set at the examination in previous years may be obtained from Messrs. Hodder & Stoughton, Warwick Square, London, E.C. 4.

Royal College of Physicians of London and Royal College of Surgeons of England.—Books of questions set at the examination in previous years may be obtained from Messrs. Taylor & Francis, Red Lion Court, Fleet Street, London, E.C. 4, price, post free, 10*d.* each.

The Conjoint Board in Ireland.—The examination includes neurology, the psychoneuroses, mental deficiency and the legal and institutional aspects of mental medicine.

Candidates are advised to note that although exemptions from certain courses are conceded on account of the candidate's special work or experience in mental diseases, in no case is exemption extended to any part of the examination itself.

THE HISTORY OF THE TEACHING OF PSYCHIATRY IN EDINBURGH: AND SIR ALEXANDER MORISON.*

By GEORGE M. ROBERTSON, M.D., F.R.C.P., F.R.C.S.(Hon.).

[Abridged.]

SIR ALEXANDER MORISON was born in Edinburgh on May 1, 1779. He attended the High School and subsequently went to the University of his native city, where, in his twentieth year, he graduated M.D.; he became a Fellow of the Royal College of Physicians of Edinburgh in 1801, and in 1808 a Fellow of the Royal College of Physicians of London.

In 1804 he built "Larchgrove" at Currie, near Edinburgh, in which he and his family lived, and this property ultimately constituted the foundation of the Morison Lectureship on Mental Diseases.

In 1808 he settled in Cobham in Surrey and had quarters in Half Moon Street. His struggle for a medical practice in London and Surrey met with so little success that he had thoughts of throwing up medicine.

The following year he was appointed Visiting Physician to the Private Lunatic Asylums in Surrey, and he did the work connected with this post punctually and with zeal.

In the year 1818, his brother John, a Writer to the Signet, advised Alexander to go to Paris, and to bring himself up-to-date medically by studying in the

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* The Morison Lecture delivered in the Hall of the Royal College of Physicians January 25, 1928.

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French hospitals which were then at the zenith of their fame. He took this advice; in Paris he met Esquirol, who impressed him more than any other physician ever appears to have done. Esquirol was a great teacher, and in the previous year, 1817, had begun a course of clinical lectures on mental diseases, which was the first of the kind and attracted medical men from all parts of Europe. The impression made on Dr. Morison's mind by these lectures suggested to him four years later the idea of giving lectures himself. He returned home from Paris, and medical practice for a time went on much as before without great success.

In 1820, he was introduced to the Marquis of Bute, who was in search of a travelling physician, and Dr. Morison agreed to accompany Lady Bute, who was one of the three daughters of Thomas Coutts, the banker, to Italy. Two years later, in 1822, Thomas Coutts died, leaving the bulk of his fortune to his second wife, and Morison became the private physician of this wealthy widow. His work was not of an exhausting character and towards the end of the year, as a result of repeated visits to Esquirol and his interest in mental diseases, he devised a plan for establishing a professorship in mental diseases, of which chair he himself should be the first occupant.

The problem presented two difficulties: funds, and the university or medical school under whose auspices the professorship should be established.

With regard to the first, in 1823 the widow of the banker gratified him by stating that she would perpetuate the memory of the late Mr. Coutts by endowing a benevolent professorship in the City of Edinburgh, with a hundred guineas a year. The holders of the office were to be Scotsmen, and the designation of the Chair was not to be the Coutts Professorship, because certain connections of the worthy bankers objected to the association of the family name with "insanity."

Several nobles and other generous friends also gave financial assistance, and a sum of £1031 was subscribed; the conditions on which the professorship was to be founded were arranged, and the Lord Provost, the Sheriff, the Marquis of Bute, and Sir Alexander Morison, were nominated trustees.

Although the financial difficulties had apparently been overcome, largely owing to the promises of Mrs. Coutts, this lady after three years, unfortunately, ceased to contribute her quota of £105 a year.

The next difficulty was to persuade the University of Edinburgh to accept the professorship, and this proved insuperable. On March 25, 1823, Dr. Morison had an interview with Principal Baird, who summoned a meeting to discuss the proposal, but it was not favourably received. Dr. Thomas Charles Hope, the Professor of Chemistry and Medicine, a very influential member of the Senatus, questioned the necessity of a chair on mental diseases; and when Sir Alexander adduced the analogy of a chair of agriculture, Prof. Hope said that the analogy was not good. He could understand, he said, the appropriateness of a chair of agriculture but not one of ploughing. He added that the whole principle of specialization was objectionable and that it might lead to the establishment of a lectureship on dropsy by some gouty old gentleman; if they were not careful they might have to accept a lectureship on pleurisy. He also suggested that objection might be taken to a separate chair on mental diseases as that subject already formed part of the courses of the Professors of Medicine and of Medical Jurisprudence. Dr. Alison, then Professor of Physiology, but afterwards of Medicine, was favourable and gave evidence to that effect before the University Commission in 1826.

Dr. Morison having failed to get the University of Edinburgh to accept a professorship on mental diseases, next approached the Lord Provost of Edinburgh for recognition by the city, but he received no encouragement in this quarter. Principal Baird then suggested that the lectureship might be attached to the asylum at Morningside, which had been opened for the reception of patients only ten years previously and of which he was an extraordinary manager. Sir Alexander thereupon approached Prof. Andrew Duncan, the Founder of the Asylum; but Dr. Duncan also saw difficulties in carrying out this suggestion.

Lastly, Dr. Home, the Professor of Medicine, suggested that the lectureship might be established under the patronage of the Royal College of Physicians. Dr. Morison approached the President of the College, Dr. Andrew Duncan, junior, but the proposal did not meet with his support.

His proposals for a lectureship had thus been rejected in turn by the University, the city, the asylum at Morningside, and the Royal College of Physicians.

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In spite of all these disappointments, which might well have depressed any ordinary man, having received funds from various sources, Morison decided to lecture on his own account, and the first lecture was delivered in Edinburgh on November 21, 1823, before an audience of six persons. The course consisted of nine lectures.

This course of lectures is important from the fact that it was the first regular course of lectures on mental diseases given in this country, and Dr. Morison continued to deliver them annually with occasional assistance from his son for a period of thirty years. On February 9, 1826, he began to lecture also in London, and he continued to lecture there till 1852, when he retired from Bethlem Hospital, to which he had been appointed visiting physician.

I desire now to explain how he lit his torch at the flame of Esquirol in Paris, and how we have inherited a tradition in Edinburgh in the direct line of descent from that great teacher and administrator, the Napoleon of Psychiatry.

Dr. Morison first met Esquirol on March 16, 1818, and was received by him as a guest. He accompanied him round the wards of the Salpêtrière and he attended his course of lectures, the second that Esquirol had delivered, the first course having been inaugurated in the year 1817. He visited Esquirol again in 1819 and in 1821. He also saw him in 1822, and it was on December 18 of that year that he thought out the details of the lectures which he intended to deliver himself. He also paid other visits to Esquirol in 1825 and 1826.

In addition to these personal visits, in May 1823, Sir Alexander wrote to Esquirol asking him for notes, and he also engaged a medical man in Paris to prepare notes of Esquirol's lectures. Even in 1826 he consulted Esquirol regarding lectures on mental disorders. Esquirol supplied him with a note of the articles he had contributed to the *Dictionnaire des Sciences Medicales*, and also with casts of brains, and gave him permission to use some of his illustrations.

It is obvious that Esquirol was the source from which Dr. Morison drew his inspiration; and therefore we may regard the School of Psychiatry in Edinburgh —which has existed for over a hundred years—as the direct offspring of Esquirol and of Paris.

I have now to describe how it was that on May 7, 1853, the lighted torch was taken over by David Skae, M.D., F.R.C.S., Physician Superintendent of the Royal Asylum at Morningside. The whole credit of this new departure belongs to the Royal College of Physicians.

The mental hospital at Morningside was founded in 1792 by Dr. Andrew Duncan, the President of the Royal College of Physicians. When he was appealing for funds, he held forth that among other claims that such an institution had upon the liberality of the public, was the opportunity it would afford to the medical profession for the study of insanity and its treatment. In 1835, when an effort was being made to enlarge the asylum, a medical committee of the Managers was formed, of which Dr. David Maclagan, President of the Royal College of Physicians in 1856, was the convener. The following was included in the Report of the Committee: "The new institution may under judicious regulations be rendered most useful as a School of Instruction in the Observation and Treatment of Mental Diseases, and thus contribute materially to diffuse a knowledge of this most important branch of Medicine." On May 7, 1850, at a quarterly meeting of the College, a motion on similar lines was unanimously agreed to. The clerk was instructed to send copies of the resolution on the subject to Drs. Christison and Taylor as Directors of the Asylum connected with the College.

In January, 1853, at a meeting of the Board of Managers of Morningside, a committee was appointed to consider and report upon whether the asylum should be made available to medical students for clinical instruction. A meeting of this committee was held on April 1, 1853, at which Dr. Taylor, the Treasurer of the College, pointed out that the subject had now acquired increased importance in consequence of the regulations of the East India Company, requiring that all candidates for medical appointments in their service should possess a competent knowledge of the treatment of insanity; and that the medical profession was becoming more and more alive to the advantages that would arise from such knowledge. The committee decided unanimously that it was desirable to establish clinical lectures at Morningside Asylum; and rules for these lectures were drawn up and approved by the Medical Board.

The Medical Board, which drew up and signed these regulations for lectures,

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consisted of the following members: Dr. Thomas Trail, President of the Royal College of Physicians, Dr. J. S. Combe, President of the Royal College of Surgeons, James Syme, the great surgeon, Dr. John Scott, and Dr. W. P. Alison, Professor of Medicine, both Fellows of the College of Physicians. Prof. Trail included lectures on insanity in his course on medical jurisprudence—no doubt following the practice of Sir Robert Christison, his predecessor, who, in the year 1820, had attended the fourth course of lectures delivered by Esquirol in Paris.

Prof. Alison also included lectures on mental diseases in his course of medicine, and had given evidence before the University Commission in 1826 that a Professorship on this subject should be established.

The Board of the Asylum approved of the proposed scheme on April 25, 1853; and Dr. Skae delivered his first lecture on May 7 of the same year, and continued to lecture annually till his death, twenty years afterwards, in 1873.

There can be little doubt that the termination of Sir Alexander Morison's* Lectures in 1852 was connected with the starting of lectures at Morningside by Dr. Skae in 1853. Dr. Morison, when President of the College in 1827, had been a Member of the Medical Board at Morningside, and his lifelong interest in the lectures was very well known to the Fellows of the College.

A third departure of another kind occurred in 1859, when Thomas Laycock, Professor of Medicine, gave a special course of lectures in summer on medical pyschology and insanity. It is known that both the Professor of Medical Jurisprudence and the Professor of Medicine gave lectures on the subject of insanity; but Prof. Laycock took such a profound and special interest in this subject, that he attached even greater importance to it than to his major course on the practice of physic. He lectured every year on it from 1859 to 1873, but he had great difficulty in getting clinical material. Morningside Asylum, though desirable as a clinical field, was out of the question, as both he and Dr. Skae had each so strong a personality that co-operation was an impossibility. Prof. Laycock used to take his class to Millholm Private Asylum, which was in the main street of Musselburgh, and he also took them for long week-ends to one of the District Asylums, such as Murthly or Lochgilphead.

In 1873, when Dr. Skae died and Dr. T. S. Clouston was appointed in his place, Prof. Laycock at once approached Dr. Clouston with a view of making Morningside his clinical field, owing to its great value and convenience for the students of the University. Dr. Clouston refers to this co-operation as a private agreement, under which he received a proportion of the fees; but Prof. Laycock maintained his position as Professor of the subject.

In 1876, Laycock died and Prof. T. Grainger Stewart was appointed in his place. He and Dr. Clouston continued during 1877 the arrangements which had existed previously, but Dr. Clouston now found that his position had become a most galling one. It was all very well to act as a subordinate to Prof. Laycock, who was a much older man than himself and had been his teacher, and who was intensely interested and well read on the subject, and who had a European reputation for his psychological knowledge. It was a totally different thing to be associated with a professor who was of his own age, who had been a fellow-student, who had no special interest in the subject, and whose knowledge of it was limited. Dr. Clouston also felt that the professor was poaching on his preserves; and he asked his assistants: "What would the Professor of Medicine think, if I lectured on heart disease in his wards?" This state of affairs could not continue and in the following year a crisis was reached which has had far-reaching results.

When the summer course of lectures on Mental Diseases in the year 1878 became due, by an unfortunate series of coincidences Dr. Clouston was not at home, all the medical officers at Morningside were either out or engaged, and the duty of assisting the professor at the clinique fell on the clinical assistant, Dr. C. E Douglas, a young graduate who had only entered upon his duties a fortnight previously, and was not yet familiar with the patients that were to be exhibited. The first patient on the list was a man who suffered from the monomania of grandeur and believed himself to be "King James"; and the form his delusion took was due to his real name, which was "James King." The simple facts of the case were supplied in the notes handed to the professor who, when the patient appeared, clapped him on the back and said: "Now my good man, tell us your

* Created a knight in 1838 on the Accession of Queen Victoria.

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delusions." The patient, who believed himself to be a Royal personage, was annoyed at the familiarity with which he was treated, and was indignant that his most cherished convictions were referred to as "delusions." He glared, but said nothing. The lecturer then thought he might elicit the delusions of grandeur by a more direct question, and asked the patient what his name was. The patient was, however, not to be drawn and still refused to reply.

A more friendly tone was now adopted and an attempt made to start a conversation. "Have you ever seen me before?" asked the lecturer. The reply came promptly: "Yes, I have seen you before. I have seen you in Hell; and I have seen other red-bearded devils in Hell like you."

From personal experience I know nothing students enjoy more than to see the professor come off second best in an encounter with an insane patient. A roar of laughter greeted the reply of "King James"; and the students rocked with delight at the discomfiture of their professor. The experienced psychiatrist becomes used to these encounters, in which he so often comes off second best, but not so the general physician. He is accustomed to be treated with respect, almost with reverence by his patients. The clinique was abandoned.

Prof. Grainger Stewart was a brilliant teacher of medicine, and it is only due to his good sense and judgment to say that he fully recognized the false position in which, through the peculiar interest in psychiatry of his predecessor, he was placed. A few months after his appointment to the Chair of Medicine, and six months before the *contretemps* at the clinique at Morningside, in giving evidence before the Royal Commission appointed to enquire into the Universities of Scotland, he stated that there ought to be a professorship of, or lectureship on, insanity. On the whole he thought that a professorship would be better. He said it was his duty to teach the subject at present or to arrange for its being taught. His predecessor had the merit of introducing the teaching of the subject into the University, and had devoted special attention to it in a summer course, as, owing to the extent of the subject of medicine, it could not be done in the winter session.

The Commission reported in 1878, a few days after the incident described at Morningside. It recorded that the importance of mental diseases as a distinct subject of study had been brought to their notice, but that none of the medical professors could be expected to devote to it that special attention which its acknowledged importantance deserved. The Commission therefore recommended that a lectureship on mental diseases should be established in the universities of Aberdeen, Glasgow, and Edinburgh.

The question of lectureships as recommended by the Royal Commission was brought to a head in the Senatus of Edinburgh University in 1878 by an offer to endow a course of lectures for five years on the Science of Religion; and the Senatus remitted the whole question of lectureships to the Faculties for their consideration.

On November 30 of the same year the Faculty of Medicine—Sir William Turner, then being Dean—recommended that:

> "In accordance with the recommendations of the Scottish Universities Commission that a Lectureship on Mental Diseases should be established in connection with the University; they are of opinion that the lecturer to be appointed should be the medical officer in charge of the lunatic wards in an institution in sufficient proximity to the University to enable the wards to be employed as a field of clinical instruction in mental diseases."

The Faculty recorded the fact that it had been the practice of Prof. Laycock, and was also the practice of Prof. Grainger Stewart to have associated with them in the teaching of this subject the medical superintendent of Morningside Asylum, who received a proportion of the fees.

On February 26, 1879, on the motion of the Principal, the Senatus of the University unanimously resolved that it was desirable that a Lectureship on Mental Diseases should be instituted, to come into operation during the summer session. Dr. Clouston was unanimously appointed to this lectureship—the first "lectureship" ever created in the University. He was, as is well known, a great clinician and one of the most brilliant lecturers we have ever had in the University. At first, attendance at his course of lectures was optional, but in the year 1892 by Ordinance it was made compulsory for all medical students registering after that date. Sir Thomas Clouston continued to lecture with great success for over

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thirty years, and published a most popular and fascinating text-book of clinical lectures.

Sir Thomas Clouston retired from the Royal Hospital at Morningside in 1908, but he continued to lecture in conjunction with his successor for two years longer. In 1910 the present writer was appointed full Lecturer on Mental Diseases by the University.

In the year 1919, in consequence of a Grant to the University of £10,000 from the Royal Hospital at Morningside, the Lectureship was converted into a Professorship of Psychiatry; and the University had permanently attached to it the valuable clinical field at Morningside.

After Dr. Skae died, in 1873, and Dr. Clouston became associated with Prof. Laycock, a successor to Dr. Skae appeared in the Extra-Mural School, namely, Dr. (afterwards Sir John) Batty Tuke. He lectured alone from 1874 till 1895. He then became associated with Sir John Macpherson from 1896 till 1898, and with the writer from 1899 till 1908. During these thirteen years the clinical field for this course of lectures was the Stirling District Asylum at Larbert. In 1908, Sir John Batty Tuke retired, and Dr. John Keay has since then conducted the course of lectures, the clinical field now being Bangour Village Mental Hospital near Edinburgh.

Lectures on mental diseases have thus been given in Edinburgh from 1823—a period of more than one hundred years, and it is doubtful if the subject has been taught for such a long unbroken period in any other medical school in the world. Although Esquirol in 1817 was the first to give regular lectures in Paris, his lectures came to an end about eight years afterwards. It may be said truly that the Edinburgh Medical School and not that of Paris inherits his tradition, and for this no praise can be too great for the perseverance and zeal of Sir Alexander Morison who took him as his prototype.

I will now describe the foundation of the Morison Lectures, which is a course somewhat apart from those already described. In the year 1862, when 83 years of age, Sir Alexander Morison resigned the office of the Visitorship of the Private Lunatic Houses in Surrey, which he had held for fifty-three years. In the same year he decided to make arrangements for a Lectureship, which is now known as the Morison Lectureship. When he first lectured in 1823, in addition to £105 a year which he received for three years from Mrs. Coutts—afterwards the Duchess of St. Albans—he collected a capital fund of £1031 from friends, relatives and admirers, for the payment of the lecturer. He accordingly made arrangements for handing over this sum to the Royal College of Physicians. He offered to give the College either a sum of money or his house at Larchgrove, with about three acres of land adjoining it, whichever the College preferred. A Committee of the College visited the house on a bright sunny day and were so entranced by the beauty of its surroundings that they had no hesitation in accepting the house and grounds in preference to the other securities. Larchgrove for various reasons was sold in 1891, and the sum of £1150 was obtained for it, and with this for a foundation a Lectureship—termed by the College, The Morison Lectureship—was finally instituted in 1864—forty-one years after the first lecture was delivered by Sir Alexander Morison. The lectures were originally given on subjects connected with mental disease; but the scope of these has now been extended to include subjects in other branches of medicine connected with the nervous system.

In conclusion, a brief note of lectures delivered elsewhere may be added.

St. Luke's Hospital in London was founded, among other reasons for the purpose of introducing "more Gentlemen of the Faculty to the Study and Practice of one of the most important branches of Physic"; and "young Physicians well recommended" visited the hospital with Dr. W. Battie and were free to observe the treatment of the patients confined there in 1753. He gave occasional clinical lectures to a few pupils at that early date.

After a long interval, Dr. Morison began his annual course of lectures in London in 1826. He gave clinical instruction for the first time to two or three pupils at Hanwell Asylum in 1840, and in Bethlem Royal Hospital from 1842 to 1852. Dr. Hood lectured there from 1852 to 1862. His successor in office, Dr. William Helps, is not known to have lectured, but Dr. Rhys Williams did so occasionally. All the physicians of Bethlem Hospital since 1878 have lectured regularly, including Sir George Savage, Dr. Percy Smith and others. Dr. Conolly gave an excellent course of lectures at Hanwell from 1842 to 1847. Dr.

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Sutherland also gave practical lectures about this time at St. Luke's Hospital. By 1870, however, only Dr. Sankey, of University College Hospital, and Dr. Blandford, of St. George's, gave stated courses of lectures in London, the former exhibiting clinical cases at Camberwell House, the course of the latter being without any such advantage.

In France, in 1870, instruction on this subject was even less satisfactory, although Esquirol had introduced clinical lectures in 1817. Lasègue lectured successfully from 1862 till 1866, after which official instruction ceased to be given till after the War. (*Journal of Mental Science*, January 1871.)

I am indebted to the manuscript biography of Sir Alexander Morison by his grandson, Dr. Alexander Blackhall-Morison, preserved in the library of the Royal College of Physicians, Edinburgh, for many of the foregoing facts and also to the diaries of Sir Alexander Morison.

THE NATIONAL ASYLUM-WORKERS' UNION'S FOURTEENTH ANNUAL CONFERENCE.

At the Fourteenth Annual Conference of the N.A.-W.U., held on July 11 and 12, 1928, at Plymouth, under the Presidency of Mr. C. Bartlett, the training and examination of mental nurses were discussed.

The following resolution was proposed by the Winwick Branch:

"*That this Conference instructs its members on the General Nursing Council to continue to use all their efforts to obtain State Registration for all holders of the R.M.P.A. Certificate.*"

Mr. Flanaghan (Winwick): In view of what Mr. Blackman (*Mental Nurses' representative on the General Nursing Council*) said this morning in his report on the General Nursing Council, I am certain it is only necessary to put this to the vote for it to be carried.

Mr. Goodings (Ryhope): Seconded.

Mr. Pritchard (Caterham): I think Mr. Blackman in his report gave a hint to the Conference that it would not be a wise policy for the delegates to enter into a discussion on this question. A report of the debate will be published in the *Magazine*, and as negotiations are being conducted between the General Nursing Council and the R.M.P.A., I think this resolution should be withdrawn, until we see what develops. We do not want to turn it down, but to leave it over for the time being.

Mr. Harris (Middlesbrough): I think the whole of the delegates will agree with me when I say that there are in mental hospitals all over the country both men and women who have qualified for and obtained the R.M.P.A. Certificate, and the general view is that the Executive have done, and will do, their utmost to get the R.M.P.A. qualified nurses registered with the G.N.C.

Chairman: Those in favour of the proposition. [**Carried.**

Mr. Blackman (Bexley): I think, since the resolution is carried, that I ought to make my position clear. My personal views are absolutely against the resolution which you have carried here this afternoon. I do not agree that any outside body, apart from the General Nursing Council, should carry on examinations for mental nurses. That body has been appointed by the State to carry out examinations for nurses of all descriptions, and the many associations which have been conducting examinations in the past have given up doing so; only the R.M.P.A. have stood out, and I do not agree that they ought to stand out, but my position is this, that all my work on the General Nursing Council has, in this one particular, been against the R.M.P.A., therefore, I am sorry that while I have to abide by your decision, it complicates my own position on the Council.

General Secretary: I think now that the Executive's point of view might be considered. It has been our constant policy for several years that we should press for registration of R.M.P.A. Certificates. It is perfectly true that the General Nursing Council is a body appointed by the State to *control* examinations for nurses, but it does not follow as a matter of course that the General Nursing Council is, of necessity, a heaven-sent body that does everything correctly and cannot make mistakes. The General Nursing Council's history since its inception is one of intolerable incompetence; they have squandered thousands of pounds of nurses' money, and it took them four years to give us a balance-sheet. They

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bought new premises at £5,500, and spent goodness knows how many more thousands in altering them, and last year they wanted further new premises, because those they have are not large enough to hold all their records. As a business body they stand condemned on all counts. God knows why they should fly to doctors for instruction in business principles; they are the last people in the world who know about them. The General Nursing Council had to get in business experts to advise them how to get out of the mess in which they had landed, and to-day they cannot keep the Register going on the registration fees of the registered nurses, but have to use part of the examination fees. To-day, the cost of examinations conducted by the General Nursing Council is quite out of the reach of mental nurses. For a start, the Preliminary Examination is going to cost over two guineas, which is quite a substantial sum, but on top of that the examinations are conducted at so few centres that there are very substantial travelling expenses in addition. Now, it is all right for Lady Vere de Vere, of noble lineage and substantial bank balance, to come along and say this is quite trivial, and that for the sake of a holy and noble calling, nurses should find the fees and go in for the examinations, but what female probationer nurse, for example, is going to be able to find two guineas for the examination in the first twelve months, and on top of that 25s. railway fare and two days' expenses? The sooner the General Nursing Council comes down to earth, and realizes that the nurses of to-day are not being recruited from the monied and leisured classes, but from ordinary working people, who have got to feed and clothe themselves, the better it will be for everybody concerned, and it is desirable that we should let the General Nursing Council know that however much we favour State registration and the higher status of nurses, we do not want to get it at the expense of incompetent control. When the Council is a body solely appointed by registered nurses, then it will be beyond criticism; but while it is as it present, a body, the majority of members of which are nominated by the Minister of Health, in common with a number of people who *have* to be matrons, and the majority on the Council is distinctly not composed of working nurses, then they must be prepared to face criticism. I say quite frankly that while I am not prepared to take sides entirely until I see what the proposals of the different bodies are (because I do not consider the Royal Medico-Psychological Association to be a shining example of democratic control), at least the R.M.P.A. fees are within the means of the ordinary mental nurse, and until the General Nursing Council can reduce its fees, and place its organization on a business-like basis, we shall be compelled to adhere to this resolution, and insist on our representatives on the General Nursing Council supporting it.

The following resolution was moved by the National Executive Council:

"*That the N.E.C. recommend the Annual Conference to establish one or more scholarships for our members, the scholarship to take the form of a grant to assist members, who at present cannot afford to do so, to take up general training.*"

Mr. Blood (N.E.C.): In proposing this, the National Executive Council wishes to point out that we are desirous of assisting the nurses who wish to obtain general hospital training, but are prevented from doing so owing to financial difficulties. We want the higher paid posts to be taken up by mental hospital nurses with general hospital training, instead of the general hospital trained nurses coming into mental hospitals, and we ask you to approve a scheme whereby facilities can be granted by visiting committees to allow nurses the necessary period of time for general hospital training, and we also desire to institute a scholarship, in the form of a grant, to make up any financial loss that they would sustain whilst in training at a general hospital, in the hope that they will come back into our profession with full qualifications. We lay down no definite rules for the scholarship; we simply ask you to pass this resolution, and give us the opportunity of carrying out a wish which has been expressed to us from time to time.

Mr. Gleeson (N.E.C.): Seconded.

Mr. Harris (Middlesbrough): While supporting this resolution, there are one or two points which I think the Executive Council should clear up. It takes two years for a mental nurse to qualify as a general nurse, and during that time the Union by means of this scholarship is going to make up the difference in financial loss, but you have no guarantee that the nurse will return to duty, neither is there any provision made to-day, to my knowledge, for any increase in pay for a fully-qualified nurse.

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GENERAL SECRETARY: The N.E.C. have not drafted any definite scheme. Miss Wiese brought the matter to our notice, and asked us to permit the Conference to vote on it, and we put it on the agenda on the understanding that if you passed it the N.E.C. would draft a scheme, which they would submit to you in due course. All the points raised are of very great importance, and I can see many difficulties in the way. We should, of course, have severely to limit the number of scholarships, and to do so would mean setting up some authority to make a choice from amongst the applicants, but the N.E.C. would not proceed with any scheme without first coming to this Conference for approval. [*Vide: N.A.-W.U. Magazine*, August, 1928.] . **[Carried.**

GENERAL PARALYSIS SUB-COMMITTEE.

POINTS FOR A DISCUSSION ON THE DIAGNOSIS, PATHOLOGY AND TREATMENT OF GENERAL PARALYSIS.

The Diagnosis.

1. Is the diagnosis of general paralysis justified on laboratory findings only, *i.e.*, without the support of (*a*) mental, (*b*) physical, or (*c*) both mental and physical signs? If not, then what physical and mental symptoms are necessary to support laboratory findings in order to justify a diagnosis of general paralysis?
2. Are cases now being diagnosed and treated as general paralysis in virtue of certain common laboratory findings, and which otherwise would not have been diagnosed as such? If so, do these cases represent an altered type of general paralysis, or are they merely the cases which were formerly classed as cerebral syphilis and treated as such with a reasonable prospect of improvement or cure?
3. Can cases of acute cerebral syphilis be distinguished from general paralysis clinically or serologically? If so, how?
4. To what extent is there unanimity of opinion as to the laboratory findings which justfiy or support the diagnosisof general paralysis? [This question arises because of the necessity for a complete standard correlation between the mental and physical signs and the serological changes in such cases.]

The Pathology.

1. Is there a special neurotropic strain of spirochæte in general paralysis?
2. Should cases of acute cerebral syphilis (infection *vid* blood-vessels and not lymphatics) be regarded as suffering from general paralysis?
3. Is general paralysis due to a pure or mixed infection?
4. Are the pathological findings in general paralysis pathognomonic or are they merely those found in all cases of dementia?

Treatment.

1. The application of malaria and tryparsamide therapy to cases of early syphilis showing pathological changes in the cerebro-spinal fluid.
2. The cause of the variation of the results of malaria and tryparsamide therapy in general paralysis claimed by different observers.
3. Should malaria therapy be supplemented by other anti-syphilitic measures?

It is hoped that members will take every opportunity of discussing these points at Quarterly, Divisional and Divisional Clinical Meetings during the year 1928–29, and forward notes of their remarks to the Hon. Secretary, Dr. W. D. NICOL, *Horton Mental Hospital, Epsom.*

PATHOLOGICAL, BACTERIOLOGICAL AND BIOCHEMICAL SUB-COMMITTEE.

SCHEMES OF RESEARCH.

[*May* 8, 1928.]

Subject:

(1) The Histology of the Basal Ganglia.

Leader: Dr. G. A. WATSON, Pathologist, Lancashire Mental Hospitals.

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(2) Pellagra and Allied Conditions.
  (*a*) Symptomatology.
  (*b*) Endocrinology.
  (*c*) Pathology.
  (*d*) Bacteriology.
    Leader: Dr. G. A. WATSON.

(3) The Accessory Sinuses. The Study of their Pathology, Bacteriology and Ætiological Relationship to Mental Disorder.
    Leader: Dr. F. A. PICKWORTH, Director of the Joint Board of Research, City and University of Birmingham.

(4) Biochemical Research into Liver Function.
    Leader: Dr. R. L. MACKENZIE WALLIS.

(5) The Bacteriology of the Intestine.
  (*a*) Aerobic Methods, in Particular the Study of the Coliform Group and their Relation to Insanity.
    Leader: Dr. F. H. STEWART, Pathologist and Bacteriologist to Staffordshire Mental Hospital, Cheddleton.
  (*b*) Anaerobic Methods, especially the Study of the Diphtheroid and Leptothrix Group and their Relationship to Mental Disorders.
    Leader: Dr. W. M. FORD-ROBERTSON, Pathologist and Bacteriologist to St. Andrew's Hospital, Northampton.

Members desiring to take part in these researches should communicate with the Honorary Secretary, Dr. W. M. FORD-ROBERTSON, *St. Andrew's Hospital, Northampton.*

APPOINTMENTS.

HANCOCK, ALLEN COULTER, *M.C.*, M.B., B.S., M.R.C.S., L.R.C.P.Lond., D.P.H., D.P.M., to be Medical Superintendent, Kent County Mental Hospital, Barming Heath, Maidstone.

NICOL, WILLIAM DREW, M.B., B.S., M.R.C.S., L.R.C.P.Lond., D.P.M., to be Deputy Medical Superintendent, Horton Mental Hospital, Epsom.

LORD, JOHN ROBERT, *C.B.E.*, M.D., F.R.C.P.E., to be Lecturer on Clinical Psychiatry, London (Royal Free Hospital) School of Medicine for Women (University of London).

OBITUARY.

RICHARD BLACKWELL MITCHELL, M.D.Edin.,

Ordinary Member 1881–1914.

Dr. R. B. Mitchell died on June 18, 1928, at Edinburgh, where he had lived since his retirement from active work. Dr. Mitchell was a native of Orkney where he was born about seventy-three years ago. He studied medicine at the University of Edinburgh, and graduated M.B., C.M. in 1879. He obtained the M.D. degree with honours in 1885.

After leaving College in 1879 he spent some time as a ship's surgeon, visiting various foreign countries—a broadening experience particularly congenial to an Orcadian. He commenced his life's work as Assistant Physician in the Fife and Kinross District Asylum, from which he was promoted to a similar position in the Royal Asylum, Morningside, Edinburgh, under the late Sir Thomas Clouston.

In 1885 he was appointed Medical Superintendent of the Midlothian and Peebles Asylum, a post which he retained until his retirement nearly thirty years later. During this long period the institution was completely reorganized and largely rebuilt, and the land attached to it was extended from a few acres to an arable farm of several hundred acres. Similar changes are represented in the normal development of most Scottish mental hospitals, and it is not always easy to estimate the exact share taken by an individual superintendent in their promotion. It is certain, however, that without his active co-operation they could not have been successfully carried out.

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As a young man Dr. Mitchell displayed both physical and mental abilities of a high order. He excelled in some forms of athletics, and he exhibited a mental culture which continued to be one of his characteristics throughout his life. Unfortunately his health came to be more or less continuously impaired as he grew older. This, together with a certain degree of deafness, tended to make him unduly shy and sensitive—a reaction which was apt to be misunderstood by casual acquaintances. To those who knew him more intimately he always remained a loyal friend, a sound thinker on many subjects and an interesting conversationalist.

He did not contribute to current psychiatric literature but devoted himself conscientiously to administrative duties. The manifold responsibilities involved in directing a mental hospital impose an unceasing strain upon the strongest and, considering the state of his health, Dr. Mitchell was wise in retiring at the earliest possible opportunity.

He has left behind him a widow and one daughter. J. M.

NOTICES BY THE REGISTRAR.

EXAMINATIONS FOR THE NURSING CERTIFICATES, MAY, 1928.

List of Successful Candidates.

Those marked * passed " with distinction."

Mental Nursing.

Beds, Herts and Hunts (Three Counties).—Jean Annie Collan, Charles Thomas John Botting, George Forster, Cecil Frederick Field, Limbey Paul Poulter.

Berkshire.—Ethel Lydia Stevens, Iva Victoria Dodd.

Buckingham.—George White.

Cambridge.—Ellen Tyrrell, Annie Amelia Cutting, Brigid Mary Hopkins.

Cheshire, Chester.—Amy Vidler, Ethel Wright, Mary Rushby, Annie Jones, Martha Molyneux, Emily J. Jones, Edith Mary Archer, Margaret C. Sherritt, Florence Taylor.

Cheshire, Parkside.—Lizzie Hammersley, Gladys Horobin, Lilian Daisy Pitts, Annie Torrens, Maggie E. Keaney, Sam. Wrigley, Henry Dobson, Vincent Roberts.

Cornwall.—Violet Rose Wilton, Laura Jane Elenor Best.

Derbyshire.—Gladys Meachum, Walter Cutts, John Peach, Leonard Robinson.

Devon.—Florence Edna Northey, Georgina G. Lawrence, Kathleen May Hope, Rosalie Ivy Voak, Elsie Webber, Jessie Heale, Freda Marion Jackson, Violet M. Gummer, Winifred Alice Duguid, Lewis Henry Voaden.

Dorset.—Alice M. Prattley.

Durham.—Georgina Blakey, Agnes Wicham, John Iceton, Ronald Chas. Mason.

Essex, Brentwood.—Norah Fallowfield, Arthur Reginald Elliott, Arthur Wm. Ketley, Herman H. Meteyard, Leonard Pepall, Harry Searle, Ernest R. Waller.

Essex, Severalls.—Margaret Joyce, Vera Frances Ehn, Jenny Adamson, Mary Huskisson, Jane Sendall, Agnes Judge, *Wilfred Norman Aylett, Alfred Claydon Bishop, John Ambrose Coburn, Leo William Foley, Stanley Hector Goodwin, Leonard Walter Hester, Frank Miller, Leonard Samuel Moss, Stanley Foster Mortimer, Arthur Nixon, William Thomas Parker, William Herbert Parker, Herbert P. Prosser, James Smith, George William Wilmerson, Benjamin B. Wright.

Glamorgan.—William J. Hopkins, John O. Lewis, John D. Davies, James Davies, Alfred Hugh Rees, Dorothy Elvins, Elizabeth Evans, Mabel Lewis, Olive Thomas, Jennet R. Jenkins, Catherine Daley, Mary Ann Jones, Gomer Davies, John Emlyn Jenkins, Thomas Charles Farmer, George Francis, David James Williams, Gwen Glatworthy, Ena Edmunds, Rachel May James, Lily Morgan, Veralie Pretoria Butler, Annie Sophia Roberts, Gwendolin May Tribe, Edith May Davies.

Gloucestershire.—Eunice Clara Foster, Doris Williams, Ellen May Pugh, Gladys Gertrude Bishop, Eva Maud Townsend, Charles Richard Davies, George Whitmore, Alfred Bishop, Fredk. John Sterry, Charles Henry Ridgway, Thomas William George Eyre, Fredk. Charles Jefferies, Charles James Claridge, Albert Fredk. Hall, William John Brown, Frederick Arthur Archer, Sidney Thos. Price, Mildred Ann Bennett, Florence Nightingale Dyson, Frances Hilda Apperley, Emily Adelaide Jones, Margaret Sinclair McKay, Elizabeth Nita Silcox, Henry George Humphris.

Hampshire, Knowle.—Clara May Gulliver.

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Hampshire, Park Prewett.—Frederick Wm. John Yeo, Charles B. Packford, Edward Alford, Charles Henry Cooke, Arthur Edward Williams.

Herefordshire.—Ethel Brace, Gertrude Moss.

Hertfordshire, Hill End.—Richard Edward Dixon, Percy Geo. Facey, Winifred Elizabeth Batchelor, Jessie Matthews.

Kent, Chartham.—James Alfred Budge, Ernest Wm. Cranmer, Thomas Eccles, Frank Petts, Sydney Walter Lockwood, Claude Cornelius M. O'Shea, Thomas Henry Brazier, Fanny Ellen Slatter Lowe, Ivy Marion Freda Cooke, Mary Ivy Goodman, Annie Boggan, Muriel Mary Johnson, Agnes Lindsay Inglis, Jean Robertson Lyall.

Lancashire, Prestwich.—David Wilkins, Charles Waugh, William Fisher, William Church, Sidney J. Woodhouse, Joseph William Blackshaw, Fred Phillips, George H. Woods, Gilbert Layland Jones, *Kate Jones, *Molly Foden, Patty Fowler, Elsie Campin, Mary Catherine Clarke.

Lancashire, Rainhill.—Mary Brownbill, Edith Nelson, Helena Curran, Frances Irving, Doris Helene McNair, Emily Wheatley, Mary Molyneux, Amy Smith, Mary Pritchard, James McGrath, George Eric Wilkes, Louis Dewhurst, Robert Fairclough, George Green, William E. Beadles, Margaret Jane Jones, Mary Greenall, Alice Entwistle, Phyllis Hill, Lucy Jane Foxley.

Lancashire, Whittingham.—Edith Champion, Mary Sharpe, May Crone, George H. Ward, Ernest Orton, Alfred T. Swain, Henry H. Birkett, Walter Lewis, Mary Birney, William Ainsworth, *John McBride, James E. Moss, Matthew Mercer, William George Green.

Lancashire, Winwick.—Hilda Sutton, Frances Annie Peet, Ronald Hankinson, Henry Jones, Daniel James Booth, James Radley, Sidney Clark, George Hughes, Percy Dawson.

Leicestershire and Rutland.—Gladys French, Hugh Friel.

Lincolnshire, Bracebridge.—Edith Muriel Cullen, John William Frecklington, George Porter.

Lincolnshire (Kesteven), Sleaford.—Ellen Baxter, William Fisher, Selina Louisa Green, Lois Rogers.

London, Banstead.—Charlotte Sarah Clamp, Violet Muriel Cockram, Mary Frazer Gavin, Lucy Gamble, Olwen Matthews, Rachel Mary Morgan, Honora O'Connor, Doris Ann Seal, Alice E. R. Strange.

London, Bexley.—Doris Ellen Meadow, Alfred Fairbrother, Robert A. Robson, Thomas Arthur Hawkins.

London, Cane Hill.—Eva Florence Howles, Ivy B. Shove, Doris Mary Peck, Percy E. Sherlock, Leslie Robert Dangerfield, Bruce Paine, Harold Percival Boots, Jessie Louisa Taylor, Edith Maria Sandford, Alfred Woods, Arthur John C. Cook, Edward Albert Dyos, Alfred Victor Francis.

London, Claybury.—Katie Broderick, Doris May Collins, Ellen Edith Eglin, *Alice Theresa Farley, Dorothy May Gregory, Mirabell M. Griffith, Doris I. Lewis, Evaline Mary Reddin, William James O'Reilly, Sidney Woskett, Alfred James Smart, Arthur Coleman, Edwin George Cooke.

London, Colney Hatch.—Naomi Morris Twigley, Nellie Green, Helen Maud Withey, Dorothy May Morriss, Laura Violet Peck, Irene Martha Williams, Florence May Taylor, Veronica Mitton, Reuben Arden, James Murphy, Edward Henry Alford, Adrien Thomas Chidgey, Cecil George Harling, Percival Charles Hann, William James Peggram.

London, Hanwell.—Joseph Ellis, James J. Hastings, William J. Hodgkins, Oscar A. H. Cotton, Robert Rose, Catherine Jones, Edith M. Meen, Florence M. Burge, Elizabeth M. M. Teckoe, Gertrude M. Dyer, Alice A. Hall, Annie M. Floyd, Mary Nevin, Florence E. Howett, Louisa C. Day, Elsie D. Ingram, Nona E. Tyler, Alice M. Turner, Violet Blackmore.

London, Horton.—Ada Bishop, Mary Annie Bowen, Victoria Rose Camm, Annie Ellen Feeney, Edith Humphries, Elsie Muriel Ironside, Bridgid Martin, Ellen O'Driscoll, Eva Hester Orpin, Susannah Spackman, Edith Ethel May Thorne, Ann Eliza Troman.

London, Long Grove.—William James Ayres, William Fredk. Church, Sydney John Dunn, Ena Doris Ashby, Iris Priscilla Bowen, Mary Mossie Forster, Dorothy Laura Hosken, Minnie Maylett, Florence May Pauffley, Florence Maud Ronaldson.

London, Maudsley.—Emily Leveson Gower, Gladys Lucas, Daniel Mannix.

London, West Park.—Lilian Asals, Elizabeth McAdams, Miriam E. Stott, Joan

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Saywell, Walter E. de Bank, John Sibley, Victor Venn, Gladys Kenlock, Emily Howard, Lilian A. P. Mitchell, Anna Maria McCabe, Sybil Stainsby, Ivy Donaldson, Hilda Finding, Hilda Elizabeth Wells, Alice Brothers, Charles Bernard King, Frank W. A. Bell, James Nowell, Leonard N. Wright, Frederick Danbrook, Norman Peter Dench, Horace M. Finding, Sidney Thomas Keates, Walter Duncan Low, George S. R. Loader.

Mid-Wales.—William Minton, William J. Brace, John Evans, Mary Elizabeth, M. Sexton, Arthur W. Giles, *Gladys W. Bodycombe.

Middlesex, Napsbury.—Joseph H. Goodall, Frederick Grayer, Arthur Edward Lowry, Albert R. Will Hunt, William James Pullman, Watson Herbt. Onion, Leonard Ernest Smee, Florence Hannah Sturt.

Middlesex, Springfield.—John Benjamin Still, Elizabeth W. Morrison, Mary Beaton, Jessie MacFarlane.

Monmouthshire.—Rosa Annie Meese, Gertrude Maddocks, Winifred Ann Lewis, Joseph Herbert Roberts, George Ernest Husbands, George Henry Woodings, Lawson Hedley Creswell, Clifford Cowles, Kenneth Alfred Morris, Robert Alfred Seale, Wilfred Raymond Whittaker.

Norfolk.—Dora Keeler, Frederick A. Morley, Bertram Edward Pluckrose, John Seekings, Frederick Wm. Adcock, Bertram Adcock.

Northamptonshire.—Evelyn Bromfield, George L. Bates, John Fredk. Gold, Stuart Gibson Gordon, Herbert Gutteridge, Joseph Herbert Storer.

Northumberland.—Arthur Hempstead, *George C. Herd, Alfred Hetherington, *George Milburn, George Wm. Peacock, Randall Peters, Olive Muriel Adamson, Elizabeth Cairns, Sarah Nesbit, Jean Weddell.

Nottinghamshire.—Joseph Wm. Roe, John Thomas Baxter, Jessie Mary Campbell, Edna Elizabeth Johnson, Doris Tranfield, Edith G. S. Baxter, Hilda Hoyland.

Oxfordshire.—Edmund Wm. Russell, Charles Victor Collip, John W. Yates, Lily M. V. Keeper, Clara Armstrong, Arthur Leslie Ruler, *Arthur Neller, John G. Watchorne, Nellie Irene King, *Annie Faichney Hector.

Salop.—Faith Tillesley, Walter Wm. Gilbert.

Somerset and Bath, Cotford.—Daisy Florence Mayers, Phyllis May Hurley, Henry Joseph Bede.

Somerset and Bath, Wells.—Ernest C. Brown, Jessie Dunford, *Bridgid Kelly, Annie Eleanor Mills, Lucy Ellen Tucker.

Staffordshire, Burntwood.—*Hilda Margt. Linney, Edward Fletcher, George Wm. Hatfield, John R. Stretton, Harold Stenfield.

Staffordshire, Cheddleton.—Emily Kathleen Robinson, Nan Rankin Atkinson, Mary W. Doherty, Mary Elizabeth O'Donnell, Annie Mary Bolger.

Staffordshire, Stafford.—George Henry Allen, Edward Thomas Wood.

Suffolk, St. Audry's.—Francis Boon, Evelyn M. Ramsey, Henry W. Osborne.

Surrey, Brookwood.—Nora Pratten, Ena Barrett, Hilda Daborn, *Ruth Owen, Winifred Grace Etherington, Alfred Rapley, Charles Henry Evans, Henry Repton, John A. Graham, Joseph Worthington, James Edward Morgan.

Surrey, Netherne.—Florence M. Boardman, Mary Elizabeth Veal.

Sussex, East.—Alfred John Critcher, Ernest Joseph Painter, *Ellen Elizabeth Richardson, Mary Thomas, Gladys Guy.

Sussex, West.—Gladys Hallatt, William A. Taylor.

Warwickshire.—*Arthur Grant, John Savidge, William J. Sadler, Ellen Rose Sherry, Josephine Sherry, Louisa Green, Margaret Varney.

Wiltshire.—William Harry Turner, Cedric Edward Lake, Jonas H. Blenkin, William Frederick Daniels, Christopher J. C. Green, Cecil Oakley, Elizabeth Hackett, Rebecca Lynn.

Worcestershire, Powick.—Hubert Weaver, Sarah Jane Jenkins, Rosie Annie Moore.

Yorkshire, E. Riding.—Dora Roantree, Arthur Wm. Constable, Hedley Howes.

Yorkshire, N. Riding.—Mary Alice Reilly, Agnes Elizabeth Prior, Kathleen Marcella Egan, *Phyllis Gregory, Kathleen McGee, Mollie Long, Winifred May Kendall, Kathleen Higgins, Eileen Casey, May Lockey, Thomas Bracken.

Yorkshire, W. Riding, Wadsley.—Annie Ambler, Lily Hubbard, Beatrice Elizabeth Oxley, Mabel Parkin, Alice Rhodes, Lucy Store, Ada Taunton, Charles Chambers, Arthur Wm. Chaplin, Winifred Cook, Ernest Victor Eborall, Harry Hopkins, Walter McNamara, Wilfred Wilson,

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Yorkshire, W. Riding, Storthes Hall.—James Bradbury, Harold Clayton, William Crowe, Robert Chas. Denyer, James Hobson, George Meeks, Baden Powell Naylor, Samuel Wade, Vivian J. Weaver, Frederick James West, Nellie Ashton, Annie Berisford, Winifred Graham, Florence Irene Hoggard, Doris Marion Hughes, Elsie Smith, Florence Tomlinson, Albina Wallis, Phyllis Ivy Wheeldon.

Yorkshire, W. Riding, Ministry of Pensions Section.—George Wm. Belk, Frederick Marshall, Stanley Mellor, John Owen, John Alfred Unsworth.

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Bronze Medal and Prize for 1929.

Dissertations for the Association's Bronze Medal and Prize must be delivered to the Registrar by April 30th, 1929.

Divisional Prizes for 1928.

Papers certified as eligible for this competition must be forwarded to the Registrar not later than April 30, 1929 (*vide* new regulation, *Journ. Ment. Sci.*, October, 1927, p. 775).

Gaskell Medal and Prize.

The following Regulation is rescinded on the authority of the Annual General Meeting (Wakefield), 1928 :

> "(3) A thesis based on original research, if of sufficient merit, may be accepted by the examiners in place of either the written or the clinical examination or both."

NOTICES BY THE GENERAL SECRETARY.

Died.

JAMES BEVERIDGE SPENCE, October 1, 1928.

Meetings.

Quarterly General Meeting, November 23, 1928, at the British Medical Association House, 19B, Tavistock Square, London, W.C. 1. (Committees meet on November 22 and Council on November 23.)

South-Western Division.—October 26, 1928, at Hants County Mental Hospital, Knowle, Fareham.

Northern and Midland Division.—October 25, 1928, at St. Luke's Hospital, Middlesbrough.

Irish Division.—November 15, 1928, at Grangegorman District Mental Hospital, Dublin.

Changes of Address.

Changes of address to be communicated to the General Secretary, Springfield Mental Hospital, Nr. Tooting, S.W. 17, and to Messrs. Adlard & Son, Ltd., 21, Hart Street, Bloomsbury Square, W.C. 1.

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Memorandum by the Parliamentary Committee of the Royal Medico-Psychological Association on the Report of the Royal Commission on Lunacy and Mental Disorder, *facing* 586.

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The Royal Medico-Psychological Association.

EXTRACT FROM THE ANNUAL REPORT OF THE COUNCIL, 1928.

Educational Matters.

Of the remaining questions dealt with during the year, undoubtedly that of the State Registration of Nurses holding the Association's mental nursing certificate occupies an outstanding place. The matter was raised during the discussion of the Educational Committee's report at the last Annual Meeting. A promise was made by the retiring President that action would be taken on this matter during the year to come—a promise which was promptly kept, as will now be shown.

The first step was to test the Association's views on the matter, and for this purpose a resolution, which bids fair to become famous, was tabled at the November general meeting (London), 1927, as follows:

"*Arising out of the Report of the Royal Commission on Lunacy and Mental Disorders (p. 107, para. 102) and in accordance with the recommendations of the Report of the Select Committee on the Registration of Nurses, 1905, para. 22, it is resolved that the Royal Medico-Psychological Association make every endeavour by negotiation, or failing that, by obtaining the insertion of a provision in any new Lunacy Bill, to secure that the possession of the Certificate of Proficiency in Mental Nursing of the Association entitles the holders thereof (both present and future) to be registered, on payment of the fees, in the Mental Section of the Registers of Nurses of the General Nursing Councils, and to enjoy all the privileges of registered mental nurses; this to be without prejudice to any examination in mental nursing which the General Nursing Councils may think fit to hold, and to be subject in the future to such supervision and standard as the General Nursing Councils may think fit to impose, as in the analogous case of the General Medical Council and medical professional examinations.*" (Proposed by Prof. G. M. Robertson and seconded by Lt.-Col. J. R. Lord.)

Every effort was made to ensure that the decision of the coming meeting should really and truly express the views of the Association, and especially of the recognized training-schools. With this object in view, and to secure a thoroughly representative gathering of members, a preliminary circular letter (dated October 28, 1927), notifying the resolution to be proposed and asking for amendments, was sent to the medical superintendents of all mental hospitals, and to others who were known to take a keen interest in this question. The many letters received in reply were, with but few exceptions, strong expressions of opinion in favour of the resolution. At the meeting, after the resolution had been proposed and seconded, a motion was submitted as an amendment, which the President refused to accept as such, on the ground that no member present could fail to vote for it whether he agreed with the resolution or not, but another amendment, adverse to the resolution, was accepted, and the discussion proceeded. On the President's allowing (Bye-law 101) a vote to be taken, the amendment was negatived by a large majority, and, the resolution being put, 49 voted for and 13 against it. The meeting was assured by the President that the Council would take action without delay.

A special meeting of the Council was decided upon to discuss how the wishes of the Association, so definitely declared, could best be carried out, but before such a meeting could be at all in a position to deal with this matter, it seemed imperative that certain cardinal points on which individual members had from time to time expressed doubts should be first cleared up.

Accordingly on December 28, 1927, a letter was addressed to the Minister of Health, enclosing a copy of the November resolution and asking for specific replies to the following questions: (1) By what machinery the Rules of the General Nursing Council can be amended or revoked; (2) whether the same procedure

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under the Nurses' Registration Act of 1919, by which rules are made, can be used to amend or revoke them; (3) or whether an amendment to the Nurses' Registration Act would now be necessary before the General Nursing Council could accept the Certificate of Proficiency in Mental Nursing as qualifying for admission to the Supplementary Part of the Register for Mental Nurses.

A letter in similar terms was also addressed to the Scottish and Irish Public Health Authorities. A reply, dated January 20, 1928, received from the Minister was affirmative of question 2, and in regard to question 3 the Minister could express no opinion until the General Nursing Council had formulated a new rule on the subject.

It was also decided to address a questionnaire to all training-schools for mental nurses recognized by the Association, seeking definite information and guidance on certain matters which would need to be discussed with the General Nursing Councils at a later date. The *questionnaire*, with a covering letter, was circulated on January 19, 1928. At the same time suggestions for improvements in the Association's scheme of training and examinations were sought, and for the ready information of the training schools there was also enclosed a circular, "Notes on the General Nursing Councils' Scheme of Training and Examinations for Mental Nurses." The special meeting of the Council was held on February 15, 1928, at Bristol University. The following resolution was passed:

"*Proposed that the sections of the Mental Nursing Advisory Committee of the "Royal Medico-Psychological Association should confer and then meet conjointly "to consider the Resolution of November 17, 1927, and to decide what proposal it "should make to the General Nursing Councils to give effect to the above Resolution; "and to report to the Council also that the summary of the answers to the "Questionnaire re mental nursing be referred to the members of the Mental Nursing "Advisory Committee for their guidance.*"

It was ordered that the November, 1927, resolution should be communicated to the General Nursing Councils, and this was done in a latter dated March 12, which also conveyed to these bodies the exact situation as it stood at that time. An important outcome of the discussion at the special meeting was the decision to seek counsel's opinion on the Association's proposals, especially as to the legality of the General Nursing Councils' accepting any examination but their own for admission to their Registers. The Rt. Hon. Hugh Macmillan's opinion was obtained, and the following extract from it cleared up this point, about which some members still retained doubts:

"The Council are no doubt required to make Rules for regulating the conduct of any examinations which may be prescribed as a condition of admission to the Register, but they are nowhere required to prescribe any examination as a condition of admission.

"There being no express duty imposed on the General Nursing Council themselves to conduct any examinations, I do not think that any question arises as to their power to delegate to any appropriate body the conduct of qualifying examinations, on such conditions as they please."

It was thus satisfactorily established that the resolution of November, 1927, did not ask the General Nursing Councils to do what was either impossible or illegal.

The meeting of the Mental Nursing Advisory Committee to consider the reference from the special meeting of the Association took place on April 13, 1928, at Liverpool, and it reported to the Council on May 17, 1928, principally on the points to be embodied in the statement which would accompany the application to the General Nursing Councils to be made pursuant the November, 1927, resolution of the Association.

A letter was received from the Registrar of the General Nursing Council for Scotland dated April 20, 1928, and subsequently forwarded by him to the nursing press for publication, proposing a meeting between that Council and representatives of the Association to discuss the whole matter. The Council, at the May meeting, agreed to this, and the Quarterly General Meeting of the same date sanctioned a similar meeting, if one could be arranged, with the General Nursing Council for England and Wales.

The letter from the Scottish General Nursing Council nowhere proposed to recognize the Association's certificate, and the solution offered of the problem was limited to the Association's ceasing to hold a Preliminary Examination, and accepting in lieu that of the General Nursing Council, the Final Examination to be

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conducted jointly. Successful candidates would obtain the certificates of both bodies.

The propositions regarding the Preliminary Examination were originally advanced by the Scottish General Nursing Council in 1924. The Council at the annual meeting of the Association of that year declined to discriminate against Scotland by ceasing to hold this examination in that country, and maintained that this condition was unnecessary for the avoidance of candidates for both certificates taking both preliminaries, as the Council proposed to accept the General Nursing Council's preliminary examination as an alternative to the Association's.

As to the proposal for a joint Final Examination, this apparently meant the establishment of an *ad hoc* examination to be recognized by both bodies, and the passing of it would not entitle the candidate to registration unless he or she had passed the Scottish General Nursing Council's preliminary. Obviously this was contrary to the specifically expressed views of the Association in the November resolution, and could not be agreed to without direct reference to the Association.

No mention was made in this letter of the fate of some 4,000 certificated mental nurses in the three countries who were debarred from admission to the State registers.

On the whole the solution offered by the Scottish General Nursing Council does not seem promising.

The only other point in the letter worthy of comment was the statement—"That in view of the terms of the Nurses' Registration Act, the case of the General Medical Council and the medical professional examinations to which you refer does not seem to my Council to be analogous to the position under that Act, and my Council consequently have difficulty in seeing how they could delegate to another body the right to conduct the State examination." On this latter point it may be remarked that the Association has never put forward the request to conduct a State examination. It considers itself to be an Imperial body, and that its Certificate is worthy of recognition by the State for registration. On the former argument, which received some support when the November, 1927, resolution was under discussion, it is illuminating to recall that in a petition to Parliament in 1907, promoted by the Society for the State Registration of Trained Nurses, which was largely signed by nurses in both general and mental hospitals, the following was one of the submissions: "That there is no Central Nursing Authority corresponding to the General Medical Council, which registers medical practitioners, and maintains discipline in the ranks of the medical profession, etc." So the idea underlying the assumption by the Association in the November, 1927, resolution that the General Nursing and the General Medical Council were analogous bodies, is no new thing.

The Council are of the opinion that the Association should adhere to its policy as expressed in the November resolution, which, though it provides machinery for carrying out the wishes of the General Nursing Councils regarding examinations, puts in the forefront the recognition, for registration, of the Certificate and all that it stands for, and not of either or both examinations. This is a straight cut and clear policy from which the Association is not likely to be turned.

As an encouragement to the foregoing, intimation was received in May, 1928, *that the General Nursing Council of the Irish Free State was prepared to accept the Association's Certificate of Proficiency in Mental Nursing for admission to the Irish Free State Register, in regard to nurses holding that certificate since June*, 1925.

Accordingly the Council has appointed a Committee to meet and discuss the November, 1927, resolution with the General Nursing Councils, beginning with that for Scotland.

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The following Mental Hospital Reports for the year 1927 have been received:

Barnwood House.	Down County.	St. Audry's Hospital, Suffolk.
Birmingham City.	Herts County.	
Devon County.	James Murray's Royal, Perth.	Salop County.
Dorset County.	Kent County.	Stafford County.
		The Retreat, York.

Also the following Reports, Reprints and Journals:

The Fourteenth Annual Report of the Board of Control, 1927.

The Fourteenth Annual Report of the General Board of Control for Scotland, 1927.

M.A.B. Annual Report, 1927–28.

Annual Report: Joint Board of Research, City and University of Birmingham, 1928.

Report: Mental Hospitals in Burma, 1927.

The 69th Annual Report of the Royal Eastern Counties Institution, 1927.

New York: Dept. of Mental Hygiene. Annual Statistical Review, 1927.

The *Caduceus* of Hong Kong: several numbers.

The Comparative Value of Current Contraceptive Methods, by *Dr. Norman Haire.*

Acetylarsan in Early Syphilis, by *Dr. V. E. Lloyd.*

A Case of Essential Thrombopenia with Hæmatomyelia, by *Karl Evany.*

The Fat, Lipin and Cholesterol Constituents of Adrenals and Gonads in Cases of Mental Disorder, by *Dennis Leyton Woodhouse.*

Some Tentative Conclusions on the Boltz Test in General Paralysis of the Insane, by *Dr. J. Ernest Nicole.*

The Mental Aspects of Encephalitis, by *Dr. W. S. Dawson.*

The Life-cycle of Bacteria, by *Dr. F. H. Stewart.*

The Autonomy of the "I" from the Standpoint of Group Analyses, by *Dr. Trigant Burrow.*

Biological Foundations and Mental Methods, by *Dr. Trigant Burrow.*

Some Causes of Racial Decay, by *Dr. C. J. Bond.*

The Judgment of Pitch as a Function of the Series, by *Stanley R. Truman* and *E. G. Wever.*

Care of the Insane and Mental Defective, by *Sir R. Armstrong-Jones.*

Psychological Studies of Motion Pictures, by *Harold Ellis Jones* and others.

Books received for review.

Pönologische Betrachtungen, von Senatspräsident *Alfred Amschl.*

Nervenkrankheiten und innere Sekretion, von *Prof. Friedrick Pineles* und *Dr. Hans Spitzer.*

Okkultismus und Rechtspflege, von *Prof. Dr. Alexander Pilcz.*

Psyche und innere Sekretion, von *Prof. Dr. Otto Klieneberger.*

Bhagavad-Gita: An Exposition on the Basis of Psycho-Philosophy and Psycho-Analysis, by *Dr. Vasant G. Rele.*

Prescribing Occupational Therapy, by *William Rush Dunton*, jun.

Methods and Uses of Hypnosis and Self-Hypnosis: A Treatise on the Powers of the Subconscious Mind, by *Dr. Bernard Hollander.*

Performance-Tests of Intelligence: A Series of Non-Linguistic Tests for Deaf and Normal Children, by *Dr. James Drever* and *Dr. Mary Collins.*

Rachi-thermometrie Humaine—Recherches Thermo-Electriques, by *Paul Schiff.*

Havelock Ellis, Philosopher of Love, by *Houston Peterson.*

Dental Medicine, by *Dr. F. W. Broderick.*

Modern Problems in Neurology, by *Kinnier Wilson.*

Mongolism: A Study of the Physical and Mental Characteristics of Mongolian Imbeciles, by *Kate Brousseau*, revised by *Dr. H. G. Brainerd.*

The Varieties of Religious Experience, by *William James.*

Two Essays on Analytical Psychology, by *Dr. C. G. Jung.*

A Manual of Individual Mental Tests and Testing, by *Augusta F. Bronner, William Healey, Gladys M. Lowe, Myra E. Shimberg.*

The Technique of Psycho-analysis, by *Dr. Edward Glover.*

The Development of the Psycho-analytical Theory of the Psychoses, 1893–1926, by *Dr. John Rickman.*

Psychological Monographs. University of Iowa. Studies in Psychology No. XI, by *Dr. Christian A. Ruckwick.*

The Kingdom of the Mind, by *June E. Downey.*

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